

MAIN CURRENTS IN MODERN THOUGHT

SUMMER-AUTUMN

1948

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MAIN CURRENTS IN MODERN THOUGHT

A co-operative journal to promote the free association of those working toward the integration of all knowledge through the study of the whole of things, Nature, Man, and Society, assuming the universe to be one, dependable, intelligible, harmonious.

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SUMMER-AUTUMN 1948

\$3 A YEAR

"Ah, but a man's reach should exceed his grasp, or what's a heaven for?" — BROWNING

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PUBLISHER'S NOTICE

Once more we must ask our readers to be patient with us. The present regrettable delay in the appearance of MAIN CURRENTS is due solely to heavy labors attendant upon the development of the FOUNDATION FOR INTEGRATED EDUCATION, and especially the first national Summer Workshop conducted by the Foundation, reported herein. The effectiveness of these activities create an ever-widening circle of friends and of opportunities, without providing commensurate increase in staff. The lag is now being remedied.

In order to bring our publication's stated date into line with the calendar, we have styled this enlarged issue Summer-Autumn, constituting numbers 2 and 3 of Volume 6, and we shall round out quantity for the subscriber with extra pages in the Winter number (Vol. 6, No. 4), which is expected to appear on the due calendar date.

Over-all concepts suited to integrated education have been the prime concern of this journal from the very first issue. This policy will be continued. At present we are giving priority to news of actual developments in educational conferences, on the campus, and in the contemporary literature of general and integrated education. As soon as it is practicable, we shall resume publication of source material significant for over-all concepts, dividing the available space about equally between such documentation and accounts of educational methods and applications.

A directory of the Officers and Sponsors of the FOUNDATION FOR INTEGRATED EDUCATION will be found on the back cover of this issue of MAIN CURRENTS. The following summary statement may be useful to new readers:

The FOUNDATION FOR INTEGRATED EDUCATION was organized under the laws of New York State, with the approval of the Department of Education thereof, in 1947. It came into existence as a spontaneous response to recognized needs in education among those who perceive a truly fundamental aspect of the world crisis, the conceptual breakdown.

The corporate statement of Aims declares that the Foundation has been established:

1. To collect, create, and distribute authoritative materials which will encourage the development of unified overall concepts in education; to improve the balance of relationships between the physical sciences and the social sciences; to inquire into the phenomena of purposive activity in nature, man, and the universe.
2. To assist teachers to understand and use such materials, and to develop an active, realistic, comprehensive philosophy which will communicate to their students the unity, coherence, and beauty of the world in which we live.
3. To remedy, solely by such educative measures, the conceptual and hence the ethical, social, economic, and political breakdown of our times, looking to a peaceful world order.

The members, associates, and staff of the Foundation realize that the progressive discovery of unifying over-all concepts concerning man and the universe is not a task to be performed successfully in isolation from the historical, social, economic, and political context of our times, nor in terms of application less than global entirety.

The work of the Foundation is wholly educational, yet referred constantly to the contemporary scene in all its aspects, no less than to the total available wealth of human experience and knowledge.

In particular the Foundation co-operates with all institutions the world over, and especially those of higher learning, which are concerned with the whole and with integrative processes in all forms.

MAIN CURRENTS IN MODERN THOUGHT (founded by F. L. Kunz in 1940) contributed to the impulse toward organization. This journal is now the official organ of the Foundation.

MAIN CURRENTS IN MODERN THOUGHT is published quarterly to call attention to significant contributions to learning currently being made by leading workers in the multiple fields into which knowledge has come to be classified. It relates these advances to each other and to the classical and contemporary views of Eastern, European and American thinkers. It is designed to save time for the reader by providing a vantage-ground from which the whole world of knowledge may be surveyed and kept in proportion as it moves toward integration. Its editors assume that the principles of art, the universals of philosophy, the laws of Nature and Man as formulated by science, and the truths of comparative religion, can be orchestrated into a harmonic, meaningful, ethical body of teachings which can be and should be made the central core of curricular study in the educative process of all levels of development. In condensing text, square brackets [] indicate editorial interpolation. Three dots . . . in the text indicates a word, phrase or passage omitted in the interest of brevity or clarity. Other usages are standard. \$3.00 a year. Foreign \$3.50. Contributors to MAIN CURRENTS enjoy full liberty of opinion and of expression in these pages. Copyright 1948, by F. L. Kunz, Port Chester, New York, to whom all communications regarding MAIN CURRENTS IN MODERN THOUGHT should be addressed. Entered as second class matter April 13th, 1946, at the post office at Port Chester, New York, under the Act of March 3rd, 1879.



A WORK BEGINS

The first national Workshop on Integrated Education was convened by the FOUNDATION FOR INTEGRATED EDUCATION on the beautiful campus of the University of New Hampshire, August 16 to 21. We analyze the attendance to indicate the breadth of representation: presidents, deans, and professors from nine universities, eight liberal arts colleges, a general college, an institute of technology; executives of four diversified major industries, officers and personnel of two church-connected councils in higher education, educational press, federal government, an institute of human relations, the public school system, psychiatric therapeutics, college students, and citizens-at-large, drawn from fifteen states over the country.

The conference was gladly welcomed by President Arthur S. Adams, of the U. of New Hampshire. He spoke not in formalist fashion, but as someone happy to participate in an aspect of the great transition now proceeding in education. The personal and productive welfare of the conference was watched over with paternal concern by Dr. Henry B. Stevens, the University's Director of Extension. By reason of this constant care, it was possible to have meals in common, for families to participate (including delectable twins, aged four), and thus maintain the closest sense of solidarity derived from diversity.

A full report will be made available by the FOUNDATION FOR INTEGRATED EDUCATION, 60 East 42nd Street, New York 17, New York. Here we have space only to record the structural outlines, and give a general account of what may be a critical transition in American cultural development confirmatory of our ideals.

The Workshop was autonomous, convoked by the Foundation staff, which conceived its duty merely to be the delineation of barest guiding outlines for principal considerations. These did not pertain to the academic alone. The Foundation itself is concerned solely with education as the fearlessly free pursuit of truth. An honest program of this character is bound to have social, economic, political, and domestic bearings. But a considerable difference is apparent between the study of man and the universe in terms of utter freedom, and direct organizational partizanship in ephemeral events. The latter is not the business of the Foundation, but the personal duty of the citizen. The former is the prime privilege and responsibility of the educator, and hence of the Foundation. What is discovered of truth as to human nature, society, and the cosmos as an operative whole cannot but have beneficial effects on our society in strengthening American constitutional law. It will also be corrective of abuses of that body of law, whether they be invasions of the duty of the judiciary by reckless elements or moods of the legislative branch (the current dangerous sickness), or any other excesses. Yet, though good effects upon our society and upon humanity are to be expected in domestic, social, economic, and political fields, these gains for true health and lasting good must come from the pursuit of truth

Editorial Summary

by individuals in great numbers. The first concern of the Foundation therefore was dual: that the Workshop should itself be utterly free; and be free in particular to follow a course which would confirm and enlarge freedom by educational means. It was probably this rare atmosphere of utter freedom, and resolute pursuit of truth (not dialectics or dispute) which christened the first national Workshop and gave it the feeling of being on the heights. Such attainment is all too fragile and evanescent, and no words will convey the sense of natural affection and respect which was for five days the atmosphere of the group, now already so fugitive.

Contemplating its practical responsibility, the Foundation staff and its friends on campuses prepared various questions bearing on the effects of integrated education upon society and mankind and upon the administration of colleges and universities, as well as provocative papers. We reproduce in the next six paragraphs some of the questions posed by G. B. Halstead in advance of the Workshop, in the area of possible effects, and hence social importance, of integrated education, when fairly well achieved.

Does integration relate to aspects of life beyond academic education? What can it do to help Business, Government, Labor, Religion, the Arts, the other Professions? People in these fields are pre-occupied with their own immediate and pressing concerns and therefore are not too interested in what they think are primarily campus developments on integration. Can we show (a) how many immediate and pressing problems are direct aspects of the disintegration of modern life, sanctioned and increased by confused and disordered education; (b) how specific efforts at integration can help them in practical, down to earth ways?

Can our work on integration result in developing more positive thinking in this country, in fact, an Ideology for Democracy in the Atomic Age? There is a very prevalent pattern of 'negative' thinking in the United States. We know more clearly what we are against than what we are for. We seem less confident than adherents of totalitarian "isms."

Can our discussions here at Durham result in enabling more people throughout the Country to recognize that the effects of our contemporary disintegration are more menacing to Democracy, Freedom, and the American economic pattern than the worst of the current subversive "isms"? Among the fundamental qualities of our Democracy, Freedom, and economic pattern, from the very beginning of our Republic, have been: (a) individual convictions about the reality of the spiritual and ethical domains as well as the material and physical; (b) the bed-rock importance of personal character and integrity; (c) the conception of Freedom as a requisite of human destiny, not merely an end in itself; (d) the opportunity for the individual to develop and contribute to the fullest of his potentials. Is it not these cornerstones of our way of life that are crumbling under the disintegration and 'atomization' of modern life?

What light can integrative thinking throw on some of the present intellectual, religious, and social trends now discernible in the U. S.? Among these are a return to various forms of orthodox, evangelical religion, the Moral Re-armament movement, etc. These are encouraging signs of a return to spirituality. But do they solve the philosophical problems involved in the present breakdown of society?

Can basic concepts of an integration of all of life inspire and transform men? Men have been changed over the years by difficult and complex religious concepts; for instance, the Kingdom of God concept. Can similar results be obtained from men coming to believe in and live by concepts that appear to be: (a) even larger

reflections of Truth, (b) even more universal in applicability and acceptability, (c) providing for the fullest "interdependent self-expression" of individuals?

Can this movement of integration offer men a philosophy and a faith adequate to live by in our times? Many men are looking for a philosophy and a faith that are: (a) truly unifying among all men; (b) in accord with Truth as it has been revealed to and by many men in many ages and in many cultures; (c) confirmed by the soundest knowledge, experience, and insight; (d) throwing as much light as possible upon the central issues of all life, that is: (1) What is the purpose of human existence? (2) What is the nature of man? (3) What is the nature of the Universe? (4) Is there immortality?

Along lines suggested by Professor Albert E. Avey, of the U. of Ohio, and expanded by Dean Myron F. Wicke of Baldwin-Wallace College, practical questions were also raised concerning the close-in effects of progressing integration on a given campus. These issues are here also reproduced:

How can we convince faculty members, themselves victims of segmented education, that integration is imperative even though it involves a drastic revision in our current curricular arrangements?

Can Presidents and Deans be brought to face the rearrangements a philosophy of integration will demand? Must this involve smaller teaching loads and smaller classes; and in turn more faculty members?

What will be the attitudes of traditionally minded boards of trustees toward the added expenses created by planning for integration?

Since college fees cannot be increased to still higher levels at the present time, where is money to be found for such added expenditure? Will foundations be willing to consider investment in an experimental program of integration?

Will a philosophy of integrated education demand a new concept of recording student progress? Will the traditional system of merely adding credits need to be supplanted by a system which more effectively measures maturity, and which measures also achievement of understanding and insight?

Where are we to find teachers who are sympathetic to the concept of integration and who are trained to develop courses in integration? Does the training offered in our graduate schools seem likely to prepare such teachers?

How shall text materials be created which are necessary for any major efforts at integration?

Will new demands be made upon our libraries if rearrangements of the curriculum are made?

Can our present examination systems, most completely developed to test specialized, detailed information, be used without radical change in the testing for integrated education?

The question central to the Workshop purposes was raised in diversified form: What is integrated education, and how shall we progress toward it, and how do we organize ourselves in order to make progress? The lead-off in discussion here was put in the hands of Dean Judson R. Butler of the General College of Boston University, assisted by Dr. O. Hobart Mowrer, Editor of the *Harvard Educational Review*, whose wide acquaintance with the whole frontier, and whose sobriety of judgment not narrowly but truly scientific, was invaluable. Dean Butler's position is perhaps unique in that he has presided from the beginning over a general college devoted explicitly to progressive over-all integration, where partials are admitted only as temporary stages toward that desired goal, the whole.

The following paragraphs from the Bulletin of the Boston University General College were circulated to the conferees, and indicate the background of solid

experience upon which Dean Butler so generously drew for our help.

In response to the demand for academic reform, many educational institutions throughout the country are now in the process of setting up broad courses of instruction which include material drawn from several related fields. Most commonly, the subject matter for these programs is presented in an "end to end" fashion, in which the student is introduced to selected material drawn, for example, first from physics, then in turn from chemistry, geology, and biology. Not infrequently, these subjects are taught by a series of specialists who cover their own fields exclusively. Such a course differs little from the conventional "survey course," save perhaps in the time devoted thereto, and number of credit hours assigned. At best, such a program may correlate and integrate in a single course material drawn separately from the broad area of science, or social science, or the humanities.

The primary distinction of the General College program derives from the "total integration" of its program of study, in contrast to these instances of "partial integration." The aim is to unify our courses of instruction so that they constitute, in effect, one single course, in which the material drawn from all fields is synchronized and correlated at every feasible point to emphasize significant relationships and to promote meaningful generalizations, consistent knowledgeable attitudes, and critical appreciation. There are no limits to the area in which such helpful relations may be established, and in this program no field or subject is out of bounds.

As differentiated from the "partial integration" now becoming conventional to college curricula, the aim of general education thus defined is the search for interrelationships wherever they naturally exist and whenever these cross references may aid in understanding and in dealing with the everyday affairs of life. It is our thesis, furthermore, that these facts, rules, scientific laws or principles are most useful when brought into relationship through the consideration of complex practical problems. It is not enough, for example, that the student should know the principles of animal and human learning, human motivation, cultural patterns or Christian ethics. Nor does it suffice even when these subjects are woven into a meaningful pattern. To be fully effective this material must be related in addition to general biology, physiology and the principles of genetics, as well as to kindred precepts drawn from economics, the problems of labor relations, and generally, to a consideration of social stresses and strains. Likewise, a knowledge of the laws of physics, mechanics and electricity does not meet the demands of general education until the student has been enabled to understand their relationships to biology, physiology, psychology and sociology, and more broadly, to the social implications of such a project, for instance, as the Missouri Valley Authority; and all these, furthermore, must be brought into line with the practical problems of population, production and distribution.

At the General College, as at Basic College of Michigan State, the emphasis for the present is upon what might be called topical integration, but the conceptual problem lies deeply within all such progressive programs.* Hence the Foundation for Integrated Education prepared and issued a few papers pertinent to this core of the task, with a view to provoking definitions in what is a field not yet in proper focus even on campuses where the most systematic efforts at over-all integration are to be seen. No attempt was made in these preparatory papers to work out ideas or even sentences. A very small specimen of this kind of material may here be

* This has been made clear in a long series of publications. Examples are *Integration, Its Meaning and Application*, L. Thomas Hopkins, D. Appleton-Century, New York, 1937; *The University and the Modern World*, Arnold S. Nash, Macmillan, New York, 1944; *Knowledge for What?* Robert Lynd, Princeton Univ., 1939; and the numerous reports of individual institutions in which given faculty thinking has been summarized.

included. It was entitled, "What is integrated education?" The rest of this series will be reproduced in entirety in the Proceedings of the Workshop, which will be published by the Foundation.

Integration: the combination of parts into a complex whole, the parts remaining distinguishable. Two cases in the material world: one mechanical, and the other living organization, the one formed and the other self-forming. Organization in the human mind. The nature of a concept.

Two deep-level and unique features of the human constitution: self-consciousness and capacity for generalization. These are basic for the continuity of higher culture. Failure here in education is failure everywhere in society. We have failed here.

The relation of the concept to order in nature. The low estate of opinion about order in nature in the latter half of the Nineteenth Century. Its nadir in 1900, and the rediscovery of Gregor Mendel, and subsequent events. Order now seen to be a more conspicuous feature of nature than any other, including materiality. Order is assumed in scientific method, since science can only advance by means of confidence in dependability, of which order (as symmetry and harmony) is a special case. It is suspected now to be the general case, as well. The opportunity implied.

The role of order and of concepts in art, philosophy, and religion; and in a good human society. Conceptual advances within each of the great disciplines or moods: art, philosophy, religion, and science can be readily made. Conceptual interlocking of all four important, and only appears difficult.

The implications of over-all concepts for a higher social order. What would be confirmed and what would be challenged in the United States and in a world society by such developments?

Conceptual integration implies (*inter alia*) a common agreement upon the principal features of the constitution of man, in a general way. We can get past present confusion on this point by examining history. What man durably is he has persistently shown. Surely this should be accepted, in all modesty, and not be ignored out of smug conceit about our recent achievements? Such acceptance does not mean that no more is to be found out. But certainly the main gains in art, philosophy, religion, and science, in terms of principles which endure, have meaning, and must be communicated to all students. Otherwise they are not receiving and being prepared to hand on culture. Their minds must, of course, also be opened to what is to come. Man is half-evolved, and psychology is the youngest of the sciences.

Integration implies also a common knowledge of contemporary cosmology, and the same argument applies, as to ancient and modern. The ancients turn out to be far more right in their general attitude than were the mechanists. We have a great deal to learn from them, while we make new gains. A good cosmology would show how wonderful was Plato's insight, even while it showed that our measurement skills and venturesomeness of the mind are also invaluable.

An integrated education of the character above described would make human nature appreciated by all students, and give understanding of man's relation to nature in a rational and ordered universe, for new social peace, because all educated Americans would have a body of important knowledge in common with which to give direction to their lives and support to their ideals.

It is quite impossible to convey the eagerness and close pertinence of the discussion, which was lively partly because it developed from the highly diverse point of view of presidents, deans, professors, students, and housewives; of personages from great machinery corporations, powerful private economic enterprise (housing and chemistry, for example) and puzzled parents; of pioneers in parapsychology, mature scholars of classical European learning, mathematicians, clergymen, Sanskrit scholars, and stubbornly determined graduate students wanting to know the real why and wherefore of human existence.

The evening sessions were allocated to a few specific frontier problems where solid work must be done in order that all may share a common body of knowledge.

To Dr. Donald Faulkner was assigned the task of critically identifying the nature of the problem which is now admitted on all sides to confront us. The vitality and buoyancy with which he addressed himself to this dispiriting but necessary piece of analysis will be found shining through his blunt, challenging, and stirring review of the crisis in education.

Dr. Gardner Murphy, Professor of Psychology of City College, New York, provided a memorable evening in which the major gains in parapsychology were expounded and discussed. To enrich this, Professor Murphy generously supplied to each individual a careful written exposition of the history of this subject, and a bibliography of unequalled authority, as prior preparation. His oral exposition could then be and was informal but as precise as is necessary in an area where ignorance is nearly universal, and bland refusal to learn is not uncommon. This was one of the richest sessions of the Workshop.

Another evening was devoted to the relations of the Workshop topic to the economic domain, introduced informally, and off the record, by Dr. Dwayne Orton, Director of Education, International Business Machines. Dr. Orton's sixteen years in higher education, mostly in administrative posts, stood him in good stead. The avowed purposes and known practices of I.B.M. give him a position of particular significance relative to the work in hand.

If an occasion is to be electric, there must be two poles in a magnetic field. The Workshop was the field. The polar element was introduced at discussion time by Mr. Julius Stulman, of Stulman-Emrick Lumber Company, New York City, whose point of view is established by extensive, perhaps unparalleled, experience in enterprise as diversified laterally as our greater corporations are concentrated vertically, though with no less geographical spread. The coincidence of these two points of view illuminated the American economic scene as lightning reveals in swift passage the rich contents of a deep darkness.

Dr. Marie I. Rasey, Wayne University, drew upon her long experience and rare insight in discussing our main topic in relation to the public school. The company discovered that through a glancing light focussed upon instances what was essential for the Workshop purposes could be brought under view. Without recourse to debatable terminology, somehow the soul of the ordinary child of the common man — ourselves, in short — could be revealed, if there be only enough warm humanity.

The last of the evening sessions was given over to discussion of religion, under the guidance of Professor William E. Kerstetter of Baldwin-Wallace College. Once more, what with adjustments to allow us to include an account of the developments at Dakota Wesleyan University (displaced by the late arrival of Dean Chase), and the intensity of the discussion provoked by Mr. Kerstetter, time was hopelessly inadequate. The group was merely able to broach, and no more, the

whole question of comparative religion as a form of science. Enough was accomplished to make it clear that we are all in need of far more substantial information in this area of advanced learning, and to ensure that the next national Workshop will have preparation and time, so that this most vital of all subjects shall not be subjected to evaluation by opinion. The particular polar body on this occasion was Dean Barden of Cleveland College, to whom the Workshop was throughout indebted for keen perception and graceful, forceful, expression.

We reproduce in this issue of MAIN CURRENTS examples of papers read. These were few in number. Most of the discourses were as informal as the discussion. All of this was recorded electrically, and the comprehensive *Proceedings* will have all of this material. Herein we include a single specimen, Dr. Oliver L. Reiser's treatment of fields and methods of knowledge as a kind of Temple of Learning.

The only unfortunate aspect of the Workshop — shortness of time — was seen after the hearing of the special recording of "Theses on Integration," kindly done by Professor P. A. Sorokin of Harvard University when it developed he could not be personally present. (This is reproduced here on page 37.) The leading of the discussion of the theses was delegated to Dr. Alan S. Wilson, President of Hillyer College, Hartford. His treatment of the topic was so enticing that the company pursued for over an hour a single item from Dr. Wilson's admirable agenda, and even then invaded the succeeding session without getting further. The agenda in its entirety is therefore appended herein to Dr. Sorokin's paper. No livelier morning session occurred, even though the company only got to first base.

THE INTERNATIONAL SCENE

UNESCO personnel provide two significant items of news, the more so when taken together.

Dr. Arne Naess, Professor of Philosophy, University of Oslo, has been added to the staff as a specialist in charge of an inquiry internationally into philosophical concepts involved in ideological conflicts.

Dr. Julian S. Huxley, Director General of UNESCO recommended a practical investigation of yoga. He couched this suggestion in hopeful, not sceptical terms, in an address to the New World Federation for Mental Health in London in August. The Associated Press London office added the following to its summary: "We know that certain people, if given the time and energy to do it, can train themselves to do very remarkable things," he explained later, at an interview. "Certain people can go into a trance. Certain people can control their breathing. Certain people can gradually arrive at a state of mystical exaltation. So far the physiology of that has never been investigated. What happens? How is it possible . . . ?" He said the best way to find out prob-

The Durham Conference was operated chiefly as a place to exchange ideas on how to get results. Its consequences will be developing for many years, in ways to be seen later. Already it has focussed in nine Commissions which are being composed on a geographical basis, as follows:

I. To survey existing programs of integrated education and to publish an annotated report on them.

II. To develop criteria for evaluating programs of integrated education.

III. To clarify and state the objectives of integrated education and to identify the values that can be confirmed by it.

IV. To develop and distribute source materials and teaching aids required for integrated education.

V. To prepare a plan for the establishment of a national professional society for educators in the fields of general and integrated education.

VI. To investigate the ways and means of teacher-training for programs on integrated education.

VII. To survey and publicize services available to institutions willing to develop and use programs of integrated education.

VIII. To compile and define the terminology of integrated education.

IX. To identify and define the verbal liaison necessary for better communication between educators and laymen.

The work of these Commissions will mark the beginning of systematic, organized and nation-wide work on the tough job of achieving integration in American education. The Foundation will aid, chiefly by coordination.

F. L. KUNZ

News & Notes

ably would be for a group of young scientists to turn themselves into guinea pigs, learn the techniques and then investigate one another. They might find, he went on, that only certain types of people could master these techniques, or they might find that everybody could."

[The limited literature is referred to in MAIN CURRENTS, Vol. IV, No. 3, pp. 77-84].

The Federation is a branch established by the International Congress on Mental Health. "Dr. Lawrence K. Frank, of New York, told a closing session of the Congress to quit worrying about the world situation. It is just the birth pains of 'the new way of life,' he said. Dr. Frank, director of the Caroline Zachry Institute of Human Development, 17 East Ninety-sixth Street, New York, said present-day conflicts between parties and countries are just signs of a resistance to long-overdue changes in society and 'failure to recognize and accept the new way of life.'" (New York *Herald-Tribune*, August 22, 1948.)

In Vol. IV, No. 4 of ETC, the quarterly journal of General Semantics, there is the following extract from an article by Wendell Johnson, "General Semantics and the Science Teacher," reprinted from *The American Journal of Physics*:

"So long as we continue to change the world we live in by applying scientific method to our material problems, we can hardly anticipate anything but increasing personal and social maladjustment if we continue to cherish and preserve our traditional prescientific ways of living in that world. In space-time terms — that is to say, in terms of the time it takes to get from one place to another, or to deliver a rocket bomb from one nation to another, or to send a message around the earth — we have reduced the former expanse of the globe to the size of a small state, scarcely larger than Rhode Island. Into this tiny and steadily shrinking space we are packing the age-old hatreds and conflicting loyalties that once, like the submicroscopic particles of the uranium atom, were comparatively harmless because they were so far apart. But just as we released the fury of the uranium atom by bringing enough of them close together fast enough, so we are threatening to unleash the demolishing fury of the 'culture atom' by compressing the peoples of the earth into compact space-time proximity so rapidly that they are unable fast enough to neutralize their accustomed prides and prejudices."

THESES ON INTEGRATED EDUCATION

The Foundation for Integrated Education kindly asked me to state bluntly my views on integrated education. The subsequent theses sum up my ideas on this matter.

The goal of integrated education is molding of creative persons integrated in their mind, character, and behavior.

Integrated mind is marked by three characteristics: (a) *Its contents* are filled by the greatest ideas, values, and standards created by humanity and are free from any ideological trash, however fashionable at a given moment. Integrated mind knows something of Homer, Dante, and Shakespeare; of Bach, Mozart, and Beethoven; of Confucius, Buddha, and Christ; of Plato, the Upanishads, and Kant; of Galileo, Newton, and Darwin; of Bhagavad Gita and the Sermon on the Mount. And it cares little to know the latest best sellers that come today and are gone into oblivion tomorrow. (b) These values and ideas do not merely squat side by side in an integrated mind but are *united into one consistent, logico-aesthetic system*. This unification of the contents of the mind is perhaps the most important characteristic of an integrated mind. An individual may know all the items of the *Encyclopedia Britannica*; but if his main values, standards, and ideas are not united into one consistent whole, his mind remains unintegrated. He remains an ignoramus incapable to master the informative food of his mind and suffers from

The FOUNDATION FOR INTEGRATED EDUCATION has begun systematic work exploring for suitable correspondents in all countries. The need is for men and women of academic standing and world vision who see the relationship of a valid and contemporary philosophy of life to a genuine world settlement, the achievement of a global society based on progressive mutual understanding through common concepts rested upon important knowledge. It should be obvious that such growth involves more than social theory. Vast changes impend, enforced by new methods of communication and the coming shift from heat energy to the new form of energy, implied in nuclear studies. A philosophy fitting man to make this shift from one era to another is now imperative. During August MAIN CURRENTS has been welcomed as a vehicle of such thinking by Dr. Werner Albrecht, Copenhagen. Dr. Vladimir Ruzicka, Editor, Pedagogical Institute Matica Slovenská, Turciansky Svätý Martin, Czechoslovakia, has been so good as to recommend us to friends in Prague, Krakow, Zagreb, and Sophia. A very much over-condensed article by Dr. J. H. van der Hoop of Amsterdam, another new correspondent, will be found elsewhere in this issue. Professor Ruzicka has been so good as to arrange an exchange with *Pedagogický Sborník*, and hence news of scientific and philosophical developments from that quarter will come to readers of MAIN CURRENTS. We cordially invite extensions of this circle.

F. L. K.

Pitirim A. Sorokin
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mental indigestion. (c) Finally, integrated mind is creative. It not only absorbs the values and ideas of its environment but judiciously selects, re-creates, integrates, and adds something of its own. If most of us cannot be first rate geniuses, we can, at least, be creative craftsmen similar to the Mediaeval craftsmen contrasted to a factory hand that mechanically repeats, from day to day, a few simple motions. These three characteristics define the mental integration of a person.

This mental integration is, however, only a part of the *total integration* of a personality. The *total integration* means not only mental but also behavioral and character integration. A truly integrated person consistently manifests in his character and practices in his behavior the integrated ideas, values, and standards he preaches. There is no chasm and no contradiction between his mental or ideological and his behavioral cultures. In our times, this total integration is particularly important. We live in an age when there is a deepest chasm between the ideological and behavioral cultures of individuals and groups. We practice little, if at all, the high sounding ideologies we preach. This discrepancy between the noble ideologies and ignoble practices of politicians and businessmen, labor and management, states and various unions, even of religious and educational groups, is one of the main causes of our inhuman wars and revolutions, atrocious social conflicts, criminality and insanity of our age.

A truly integrated education must remedy this tragic dualism and must vigorously mold persons integrated in their mind, character, and overt behavior. Such are the basic traits of a fully integrated person.

Respectively, the tasks of integrated education consist: in an incessant stimulation of creativity of students; in a continuous enrichment of the treasury of their ideological culture by perennial great values-standards-ideas; in an indefatigable integration of these into one consistent system; finally, in an incessant integration of the mind-character-behavior into one whole in which the overt actions fully express the ideological culture of a person.

The techniques of a realization of these tasks must have a flexible, varying procedure suited to the specific conditions and peculiarities of an individual. Side by side with these differential techniques there are, however, techniques common to all integrated educational systems. Such are, for instance, the technique of development in the students of a logical thinking in all its forms: mathematical, dialectic, syllogistic, inductive and deductive; instead of the technique of filling their minds by various bits of information. Next comes the technique of building in the students of a unified system of basic principles common to all branches of human cognition and standards. Mind trained in these two things feels at home in the whole universe and ceases to be a stranger to any field of human knowledge and values.

Supplementary to these techniques of integration from the general to the particular is the opposite technique of integration from the particular to the general. The student must concentrate upon a specific topic in which he is interested. If in such a specialized study (or experience) the student is urged to follow up all its ramifications into the fields of other sciences, philosophy and/or religion, fine arts and/or law, he would be building his integration not only from the general to the particular but also from the grass roots of his direct experience, from the particular to the general. These two ways of integration give us a harmonious synthesis of the general education with a deep specialization. We thus avoid the dangers of superficial generality as well as a deadly narrowmindedness of an uneducated specialist.

Further on, integrated education should stimulate "the supralogical insight and creative intuition" of the students. It must nurse their specific spark of genius however small and odd it may appear at first glance. We must not forget that many creative geniuses appeared odd and unpromising to their standardized mentors. Hegel in his university diploma was explicitly qualified as deficient in philosophy. Leo Tolstoi received C in the course of Russian literature and language in his university. Similar suffocation of creative sparks is widely spread in our schools and in our total culture. Standardization of our culture has become so deadly that it begins to strangle creativity and originality of many a student and many a potential creator. Integrated education must remedy this disease of our culture. It should replace the cultivation of an uncreative

mediocrity by that of a fresh, sparkling creativity. One of its results will be a replacement of a contemporary aridity in arts and humanistics, in philosophy and religion by creative blossoming.

Finally, the welding of the mind, character, and behavior of persons into one consistent whole cannot be achieved without the technique of practicing what one preaches. It is easy to convey to the mind of the students the norms of the Sermon on the Mount. And it is exceedingly difficult to make them practice these norms in their overt conduct. The same is true of any idea, value, norm. If these are not expected to remain a mere speech-reaction in the students, they need an incessant translation into person's overt behavior. Only with such an incessant practice they become habitual and enter organically into the total culture of man. This technique of practice of one's preaching is indispensable for the total integration of man. Without it we cannot bridge the contemporary chasm between noble speech-reactions and ignoble overt actions of individuals and groups. Without it we cannot eliminate wars, bloody revolutions, criminality, insanity, and disintegration of personalities rampant in our age.

In conclusion it is to be noted that the outlined sort of integrated education is little practiced nowadays whether in our schools or in our social life. The prevalent mode of education is largely unintegrated. One of its results is a large measure of unintegration and disintegration of our culture, social institutions and of prevalent type of personality. One of the most important means for an elimination of these grave diseases is a replacement of our unintegrated by integrated education. It is demanded not only by the highest interests of a human person; it is no less necessary for the termination of the most destructive wars and conflicts; and especially for a new renaissance of a creative genius of humanity.

IMPLICATION OF SOROKIN'S THESES

Alan S. Wilson, President, Hillyer College

[Editor's Note: The following questions and tentative answers were prepared by Dr. Wilson to guide the discussion of Professor Sorokin's Theses at the first national Workshop on Integration into channels of institutional practice. Working definitions of some of the important terms were included: **Functional:** Practical, useful, workable; **Dynamic:** Active, energizing, growing; **Altruistic:** Goodness, brotherhood, charity, love; **Ego:** Self; **Sociocultural:** Mores of society, laws, customs, society, friends, tradition, Western civilization; **Bioconscious Ego:** Inner drives, urges, "instincts," etc. of which one is aware; **Overt:** Outward, visible.]

What constitutes a well integrated person? A well integrated person is one who possesses a functional approach to a dynamic altruism based upon and emanating from a harmonious relationship between his bio-conscious and sociocultural egos and leading to creative (i.e. problem solving) behavior.

What are some of the traits of character and personality possessed by a well integrated person? a. His Intellectual (mental) traits will include the following: 1. Knowledge (Broad and consisting more of ideas and relationships than isolated facts). 2. Value standards (For reaching judgments). 3. Logical consistency. 4. Creative, imaginative, inventive behavior. b. His moral

traits will include these: 1. The individual will possess a system of ethical standards of a high order, as the basis of his actions. These inner values will be socio-religious. 2. His overt acts will correspond to and be in harmony with, his sets of inner values.

How can we produce better integration in persons? Through a well thought out and well executed educational program which takes as its main job the development of integrated persons. (i.e. "Integrated Education.")

By what educational methods can these results for the individual be achieved? a. By the stimulation of creativity. b. By the enrichment of the individual's background of ideas, values, and standards. c. By a conscious and incessant effort to keep these forces united in a proper relationship in order to express the true background of the individual.

How will the methods suggested above differ from current well known methods in American Education? a. All procedures, including the curriculum must be more flexible. b. The primary emphasis must be shifted from the teaching of facts to the teaching of proper relationships between facts. The effort will be upon developing a system of logical thinking rather than acquiring knowledge *per se* (which we know is usually quickly unlearned anyway). c. Relating logical systems of thinking to each other, (i.e. mathematics would be related to art, physics, music, etc.). d. Inductive as well as deductive processes will be used. Proceed from the particular to the general (project work) as well as vice versa. This following of some specialty through all of its various ramifications is to get a set of sound conclusions

about it. e. An attempt is made to develop (supralogical) insight ("creative intuition") in the student. This trait is well known and very valuable but receives very little directed development in modern educational systems. f. Practice — in overt conduct until integration is perfected.

Can a student prepared under this system specialize in one field? Absolutely! Not only that, but his specialty will take on more meaning to him, as he becomes better acquainted with its relationships to other fields of activity.

What are the implication of the Theses for the student who is already badly disintegrated when he comes to you? His need for help is more acute and the treatment will be more difficult and take longer, but given proper conditions it should not be impossible to reorient him.

Who will set the standards of value? Are they theological or spiritual in origin, and how are we to agree upon them since man has never in the past agreed on theological matters? They are not theological values. They are religio-spiritual values common to all creeds and can be and are already well-known. If followed, will the proposal lead to the development of well integrated individuals who do not know the multiplication tables or rules of grammar? In other words, what do we do about demanding that some essential facts be memorized because they will be needed later. Essential matter would be memorized, but only after it has first been discussed and its content explained and related to other content. Psychology has shown that by such association, memorizing is made easier for the student.

THE INTEGRATION OF GENERAL EDUCATION Judson R. Butler, Dean, General College, Boston University

It is just three years since the Harvard report on *General Education in a Free Society* stirred the educational world with the promise of a new deal in higher education. The publication of this report, general and indefinite though it was, seized the imagination and fired the hopes of teachers and administrators alike.

Many of these educators were seriously concerned about the enormous multiplicity and the narrow emphasis of the strictly departmentalized courses typical of college curricula. (It had been pointed out at the University of Minnesota, for example, that in 1940 there were 606 courses open to freshmen.) The report, with its plea for a common educational background for all students regardless of their specialization, and for cooperative effort in providing a broader education along inter-departmental lines, received a cordial response both inside and outside college circles. The emergence of the United States as a leading world power, and the obvious lack of preparation on the part of our citizens and leaders for their widened responsibilities gave added impetus to the desire for academic reform.

It is truly said that American colleges are engaged in an impressive variety of efforts to break down academic

barriers and to organize effective general education programs. Sundry committees have struggled with this problem, or are now engaged with this task. These represent sincere efforts to set up courses which will permit the free exchange of ideas, facilitate cross departmental reference, and otherwise to grasp some of the academic nettles. Many would hold that these projects represent a gratifying advance toward an effective general education and are all that can reasonably be expected.

"General Education" is alive and kicking, but the movement is sadly in need of help. With few exceptions it is still badly and unnecessarily stalled in committee discussion, or held to minor gains. Why has so little progress seemed to have been attained?

Many promising programs, of course, have been undercut by faculty log-rolling and temporizing proclivities. The underlying fact, however, is that many top-flight leaders have no clear conception of the role of integration as the basic principle of general education. Academic thought on this subject tends to be so vague and generalized as to blunt the recognition of practical ways and means. As a result, few of the announced programs represent a serious attempt toward thorough-going inte-

gration. How many, for example, have even made the effort to integrate the physical and biological sciences, or the sciences in turn with the social sciences, or with the humanities? It may be said that a quarter loaf or an eighth loaf is better than none. We only fool ourselves, however, if we imagine that these endeavors, notable though they are, as yet constitute more than a token of progress toward that integrated knowledge and understanding required by our students. In many instances they represent evasions of the painful surrender of departmental prerogative, rather than a wholehearted attempt at cooperation and integration. Indeed, the whole general education movement stands in danger of being discredited by these halfhearted or compromise programs, unless we succeed in clarifying the issue and in suggesting practical steps toward the realization of our goal.

So far, we who labor in this field have dealt too largely in terms of general objective, and too little in specific and definite terms. Our failure to cope with this problem in a practical way and to avoid vague and indefinite terminology has been a partial reason for the prevalent doldrums into which too many programs have fallen. It is to be hoped and expected that a concerted attack on this basic problem, such as is promised by this conference, may give some impetus to the genuine desire for adequate reform.

THE CASE FOR INTEGRATION

Many of these shortcomings could be overcome by a clear understanding of and an act of faith in the role of integration. When we grasp the nature and the importance of integration in education, when we come to believe that true integration will revolutionize higher education — then effective general education and a great deal else will seem feasible and emerge faster.

It is not within the limits of this paper to present a complete analysis or an exhaustive discussion of the meaning and significance of integration; it would take a book, no less.

Others here will shed more light than I could on its philosophical, scientific and social significance. But there are a few concepts of fundamental importance to general education which might be reviewed with some profit.

General Education, as we use the term, is the antithesis of academic isolationism, of separatism, of narrow specialization, and of educational atomism generally. It is concerned with giving all students, regardless of the later area of specialization, a basic understanding of the sciences, social sciences and humanities — including the ability to deal logically and informatively and imaginatively with novel problems as they may arise in living. Later, as the student specializes in some one area he may weave his advanced knowledge into the pattern of his generalized understanding, and follow the ramifications suggested by his special interest, into neighboring fields — thus his concentration on a specific subject, in addition to making him a competent specialist, will add further to his "general education."

Furthermore, the means of general education is integrated study, and the end is integrated knowledge and understanding. It has the function to teach not mere

facts, but to utilize facts and principles wherever found as the means for fuller understanding.

The construction of a general education program based upon integration is justified by certain psychological principles as well as by more general considerations of the relativity of all knowledge. Meaning and significance, full understanding and mastery are dependent upon bringing together all available relevant facts and knowledge, from whatever fields. In addition, understanding is furthered in the act of applying this systematized knowledge to practical, social, political, moral, aesthetic and personal problems. The pressing case, presented by our present drift toward war, for example, must be considered in the light of relevant political, ideological and economic factors involved; it presents problems arising out of prejudice, fear and tradition; it involves considerations of physics, chemistry, geology, biology, and derived technologies; and progress toward understanding and peace must be made through an understanding of the total problem toward which these sciences and the disciplines of psychology, sociology, and political economy, all must contribute. Any person, however competent in one of these disciplines, cannot hope to think logically or deal sensibly with the total problem unless all related facts and principles are brought to bear effectively upon it, and with full understanding of their relevancy and interdependence.

The gains to the student from integrated study are clearly indicated, not only in mature understanding, but in terms even of effective learning. Education, thus conceived, avoids the "Information Please" complex, rote learning, and parroting. Through cooperative effort, relevant facts and principles are introduced from a number of disparate areas; these are arranged into a pattern or system from which new relations and new concepts appear; and eventually these patterns combine into larger and larger units, until a consistent logical, scientific, social, aesthetic and moral system tends to arise which is truly unique and creative. A student who knows the works of Beethoven, Mozart, and Shostakovich, and who also understands the physics and mathematics of sound waves, the physiology of the ear and the neural functions involved, the psychology of auditory sensation and the perceptive process by which auditory experience is organized, and who has combined this knowledge with the study of musical instruments, harmony and dissonance, of ancient, medieval, classical and modern music, such a student has a wider and deeper knowledge and a truer understanding.

Moreover, by the integration and wider patterning of his knowledge, not only do new concepts automatically appear — as the arranging of four lines into a particular form gives rise to the complex concept of the square — but the multiplicity of associative clues thus provided aids recall immeasurably, and tends to render his acquisitions permanent. Studies repeatedly have shown that information gained from college courses is quickly forgotten, but that understanding and appreciation once acquired become permanent possessions. An even more important advantage inherent in integrative study is the tremendously important factor of motivation. An emphasis upon pertinent relations and the resulting signifi-

cance and understanding thus engendered add interest and promote an enthusiasm for study, discussion and application, of tremendous value.

Finally, integrative study lends itself naturally and appropriately to the "case method," thus helping to bridge the chasm between the academic world and the practical problems of living. The instance of a strike of fishermen in Boston presents a problem requiring insight into the biological factors of the reproduction and migration of fishes, the economics of supply and demand, and the psychological and social reactions of the fishermen and shipowner. Only integration among all these fields of knowledge can prepare the student to deal effectively with such problems as a citizen and worker.

THE CONTENT OF THE GENERAL EDUCATION PROGRAM

There is still a deal of confusion surrounding the question of the proper content of an integrated general education program. The range of material which might be integrated is as wide as all the fields of human knowledge combined. Individuals and committees have devoted much of their time to the selection of the most important content for study. For instance, Mr. Conant at Harvard is presenting a course in science which concentrates upon great scientific discoveries in an effort to give an understanding of the history and methods of science. Other courses concentrate on the biological or the physical sciences in order to provide a knowledge and an understanding of these fields appropriate to the educated layman. And educators, unable to decide or agree on the most suitable content, offer the student a choice of several different types of program — reminiscent of cafeteria education on the elective plan.

This uncertainty, of course, provides an opportunity for endless consideration and debate: which philosophers

should be included and which excluded; which literary masterpieces; how much of comparative religion; and what of economics, history, psychology, sociology, anthropology, art, music, mathematics, and sciences? The possibilities are almost limitless, and approached in this manner, who is competent to select surely not only the greatest ideas and values of all time, but those most essential to the student whose time is limited, and who must not only acquire a general education, but also proficiency in a specialized academic field, or in a profession?

Any program set up in this manner must be the object of endless debate. Any selection is open to question because standards and judgments are necessarily arbitrary.

As for the actual content of the integrated college program, there is, after all, a valid criterion which is neither arbitrary nor dependent upon arm-chair speculation. The aim of general education is to equip the student with the tools for effective living within a given social complex. Its purpose is to enable him to deal with his personal and social problems as a human being, as a citizen in a democracy and as a worker. It is our thesis and experience that when these ends are kept in mind, when the types of specific problem which the student will have to face throughout life are made central to the program as concrete exercises in application of his academic training, that the selection of appropriate subject matter follows as a matter of course. Integration then becomes a cooperative enterprise in which the scientist, the social scientist, and the teacher of the humanities supplement each other's efforts in the attainment of the common goal of fuller understanding and appreciation. Thus related to the vital problems of living the selection and ordering of integrative content follows logically in the projection of a definite pattern — as the separate pieces of a puzzle are fitted into a completed picture.

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A TEMPLE OF LEARNING*

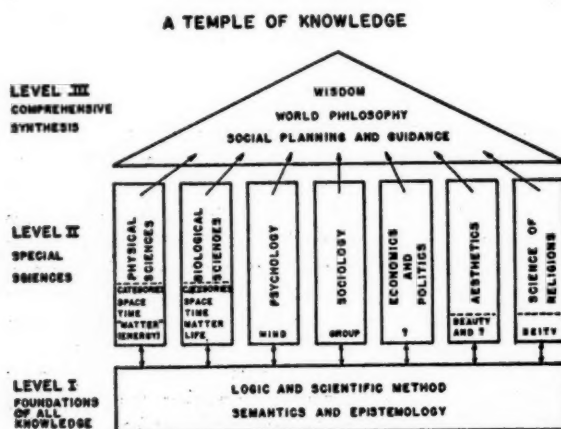
To introduce myself to you first of all, I am a teacher of philosophy. As such, it has been my business to try to see things as a whole, that is, to search for integration. This is the traditional function of philosophy by definition, and its proper function, so that I don't see how any philosopher could remain disinterested in the findings of a Workshop in Integrated Education. But I am equally interested as a teacher, for when I look around at what is going on both inside and outside the University I see, of course, what is quite obvious — that there is very little integration anywhere. We are producing nowadays what we might call Frankenstein monsters — creatures overwhelmed with facts which they don't understand. The question that is implied in Robert Lynd's book, "Knowledge For What?", still remains unanswered. What is the use of all this tremendous specialization, all these bodies of knowledge that we do possess?

* Report of a talk given by Dr. Reiser at the Workshop of the Foundation for Integrated Education, University of New Hampshire, August 20, 1948.

As a teacher, I try to do as much integration as I can in all my own courses, but there is one particular course in which I make a special effort. In teaching this course, which is on the Philosophy of Science on the graduate level, I try to find some way of organizing my presentation, a kind of pedagogical feature. Four or five years ago I began to use a scheme which might be called a Temple of Learning.

I might say, first of all, that this is a static presentation and has, therefore, all of the limitations that this implies, except that some sense of direction may be indicated by arrows. I am certainly not of the opinion that this is the best presentation possible, and if any of you here at the Workshop can give me a better one I shall be most grateful. Failing that, however (and one must always envision the possibility of failure), when I go back to my teaching this fall I am going to have to use the same old thing. I remember when the architect, Frank Lloyd Wright, came to Pittsburgh and surveyed

the community with a critical eye, he said, "I think the best thing would be to abandon it entirely." It may be that this morning's discussion will arrive at pretty much the same judgment of my presentation, but I am hoping to have many constructive suggestions which may save its life.



You will see from the illustration that there are conceived to be three levels of knowledge. The bottom level, the first, contains the foundations of all knowledge, logic and mathematics and scientific method, which includes the formal sciences. I would be inclined to include epistemology here and, just to be complete, semantics, though in my opinion semantics is just another name for scientific method.

Then comes the second level of the special sciences. I have indicated seven, although there are many more, and some obvious omissions. The principle used for limiting the number in this way is, of course, a positive one — the size of the blackboard. Besides, it gives me one of the few opportunities I am able to find where I can quote scripture. This is from the Proverbs of Solomon: "Wisdom has builded her house, she hath hewn out her seven pillars." This is an attempt to construct Solomon's Temple, except that the rectangles of level two, the special sciences, are not pillars of wisdom but pillars of knowledge.

To achieve wisdom we must climb a little higher, or to the third level. Here at the top is speculative synthesis, which of course means putting things together. In the diagram I have used the term "world philosophy" as a possible name for what we are aiming at on this level. When social planning is finally controlled by human intelligence, so that we consciously direct the course of social change, it will necessarily be done in the light of wisdom gained by reflection upon knowledge, which has been derived in turn from the various special sciences.

To a considerable extent this idea is related to the conception of philosophy which Herbert Spencer formulated, as you will recognize. However, there are several differences, which will emerge as we proceed. You may remember that Spencer had three levels of belief. First came the level of un-unified knowledge which he called

common-sense and of which he had a low opinion, since to him it appeared nothing but common ignorance. Above it came the level of science, where the partially unified knowledge which gives common-sense is specialized. Last came the third level of completely unified knowledge which Spencer thought was philosophy, although I should prefer to call it the goal of philosophy, something still to be attained.

Before considering each of the levels in our scheme in more detail, I should like to point out, in general, that as we move from left to right in the picture the material dealt with becomes increasingly richer. Also, of course, the certainty of the conclusions, the accuracy of the laws, change. In the social sciences, particularly, there are few laws because, among other things, we are dealing with such enormously complicated phenomena. Physics is in a sense the most perfect of the sciences in that it has the highest degree of accuracy. You will notice that at the bottom I have tried to indicate, just to remind myself, that in the special sciences we are working with the categories that are peculiar to that particular science. We start in physics with space-time and matter, which of course should be in quotation marks since matter is really energy — one stable form, perhaps, or pattern of energy. Then biology carries on space-time and adds another category, life. Psychology, next in the developmental sequence, would add the category of mind to all the preceding. Sociology brings forward primarily the idea of the group and group interactions. As regards politics, I do not feel competent to select the fundamental quality. Perhaps it is justice. Economics and politics should of course be related, possibly through a return to the old-fashioned political economy. Next come aesthetics, and then the science of religion. Aesthetics concerns primarily, though certainly not exclusively, the idea of beauty, as religion embodies the conception of deity.

Now let us return to level two for a moment. You will see that in many instances we have there the "ology" ending, such as biology. As everyone knows, this means "science of" or "reasoning applied to" — the logic of the factual material in that particular field. The ending "ology" comes from the Greek "logos," meaning "reason" or "speech," so the science of anything is the "ology" of it. This brings us back to the first level, for it raises the questions that pertain to the foundations of science. Some of these problems are: Are there principles of reasoning which hold for all of the sciences? Logic and mathematics pretend to give certain universal ways of thinking which can be put to work in the special sciences. Are those principles the same, particularly in the field of logic, for all the sciences, or may they differ? Are they valid for all time, or is the human mind still evolving so that even the laws of thought may change, new laws emerge, and new principles of reasoning take their place in the quiver of scientific tools which man may use? As you may know, Levy Bruhl has studied primitive man and has come to the conclusion that he is pre-logical and does not conform to the principles of Aristotelian logic which now govern our thought. If such a change has occurred during the social-mental evolution of the human race, are its effects now com-

plete or may the human mind some day formulate other ways of arriving at conclusions?

The answers to these questions should, I think, properly be found on the first level of science. Whatever laws are set up, their acceptance becomes a part of the fundamental assumptions of all science. There are other fundamental assumptions, for instance, the problem of the postulates, such as the uniformity of nature, and so on, which belong on the first level and give an indication of what we mean by the foundations of science. It is obvious that studies on this first level are still incomplete. Many questions concerning the foundations of science still remain unanswered. Even the much talked of scientific method contains and even conceals some subtle problems. For example, what is the essence of scientific method? Is it the same for all science, or does such a subject as psychology add another factor to the scientific method as used in the physical sciences? Psychology relies upon introspective procedures, for one thing. Northrop, in his latest book, gives indication that he believes scientific method does not always remain the same. I should prefer to express this change in another way, which is not necessarily a contradiction of Northrop's view: There is a common nucleus which remains unchanged, but there may be some additions in the way of techniques which could be peculiar to special sciences.

This gives rise to another question: Is there a place for intuition or insight in science, and does this introduce the super-logical element into research? This involves us in the whole problem of what is the origin of ideas and concepts. Must all knowledge be publicly verifiable, or are there certain types of knowledge which are private but can be validated by a comparison of experience? Could such knowledge be admissible in the field of science? There are many other extensive problems.

Now let us pass on to one of the things peculiar to our scheme, as compared with Herbert Spencer's — our inclusion of the Science of Religions and the Science of Aesthetics. Here we part company, for Spencer had little interest in religion. He thought it was trying to know the unknowable, a difficult task, certainly, and one he found it impossible to undertake. Therefore he had no contribution to make in this field. I am interested to note that Fritz Kunz and others are talking of a science of religions as a substitute for comparative religion. I myself have made this change in terminology since I came to the Workshop. I recall that William James (in the last essay on pragmatism, I think) suggested the possibility of a science of religions, and it might be of interest to re-read his arguments.

The inclusion of religion and aesthetics — which is the study of man's response to beauty and other values through his creations in the various fine arts — will tell us much about man and the universe in which man's values have developed. Studies in the fields of religion, poetry, music, folklore, dance, painting, and the other arts whereby man expresses and communicates emotions and ideas may reveal much about human nature which the now emasculated sciences of psychology and sociology have let slip through their fingers. A narrow behavioristic

conception of scientific method excludes man's inner life, the subjective emotions and aspirations, his hopes and fears and strivings, study of which is bound to produce interesting results. Without them we would certainly have a very impoverished kind of social science, yet even now the social sciences are taught in our universities from such a behavioristic approach.

Moving on, the third level is that of wisdom and social guidance or social planning. If there is any cultural commodity which is scarce in our modern society, of course, it is wisdom. Wisdom is knowledge applied for the purpose of guiding social change along the lines of cultural progress. Wisdom is knowledge that has been harmonized and absorbed. In the technical jargon of the day, we may say that wisdom is the effective utilization of the bodies of descriptive principles (the second level is largely the level of collection of facts and their organization into a systematic form for the purpose of formulating laws) for the normative goals of social planning. The second level would thus be the level of factual analysis, and the third the level of the normative or the field of values. Knowledge is not wisdom, but there can be no wisdom without knowledge.

Intelligent self-development and social planning require the very best knowledge (science) plus insight into the meaning of human history. (We are all for social planning but we seem to have overlooked the problem of the personal development in the individual, and certainly the two must go together.) The maxim of level two might be "divide and conquer," for there is no science of the universe as a whole, and each special science marks out a little part of nature and investigates that intensively. It is the strategy of splitting up and then conquering small areas at a time. The maxim of level three, however, would be "unify, synthesize, and understand." Our educational system does a pretty good job in the main on the second level. It is on the third level that we are failing, for our knowledge does not build up to anything germane and meaningful. Students are confused because their teachers lack broad understanding and vision, and this in turn arises in part from the fact that there is no synthesis of our bodies of knowledge. What I am concerned with just here is largely the kind of intellectual enterprise which will have strong social implications, and this of course does not take into account all that is involved in the problem of character as P. A. Sorokin has considered it. That is important, of course, and is another part of the problem.

Now, how can at least the preliminary beginnings of this enormous problem of the integration of knowledge be undertaken?

Before attempting to come a little closer to this central question, let us glance at some of the difficulties that concerned Spencer when he faced the problem in his day. We discover them in studying the ways in which Spencer's own attempt at synthesis failed. One difficulty in trying to create a body of wisdom or world philosophy by integrating knowledge into a comprehensive synthesis is that knowledge is a growing, changing thing, and any synthesis will probably for a long time to come be imperfect, impermanent and fallible. In the case of Spencer, we know that before the last volume

of his Synthetic Philosophy was published the first was already out of date.

We have learned a good deal since Spencer, and I do not know whether the rate of progress is slowing down. The enormous revolution in thinking caused by all the developments in physics came after Spencer. Nothing comparable to that event is easy to foresee except, perhaps, in biology and parapsychology. Radical developments in those fields would make it difficult for a long time to get the kind of integration that would represent the final synthesis, if such is indeed ever to be achieved.

But that difficulty does not mean that the job should not be done now. It has to be done. Such an integration grows naturally out of the scheme that we have depicted. The synthesis at the top level is likely to be speculative, possessing less certainty perhaps than the generalizations of the sciences at level two. I am not satisfied with this synthesis, particularly because a lack of principles which embody some certainty makes social planning rather hesitant and experimental. But it is probable that all comprehensive syntheses or systems of generalization possess a lower degree of certainty than any of the individual propositions, which are constants in that system. This is especially true when the higher level brings in value judgments which are not present to the same degree in the second level of the special sciences. A problem which now bothers a good many philosophers and scientists involves the question of whether there is any place in science for values. In my own opinion there is, and the separation of facts and values is somewhat unsatisfactory. Certainly any use of the scientific method (search for truth, objectivity, intellectual honesty — what one teacher calls the passion for fact) brings in evaluative things, but it does not justify social thinking. Our third level presupposes the effort of trying to determine what ought to be, whereas here on the second level the problem is more one of simply recording fact.

If knowledge on the second level is impermanent (and today knowledge is like good coffee, something that has to be dated), we would have to revise periodically the higher synthesis which is our social wisdom. In trying to deal with that difficulty we can at the same time offer a solution to a related problem. This concerns the criticism that it is not possible for any one mind to comprehend all knowledge. This is self-evident, for in fact it is not even possible for any one individual mind to master any one science in its entirety. How then can anyone hope to encompass all knowledge? We remember Francis Bacon saying, "I take all knowledge for my province," but we are well aware that this was

in the 17th century. Anyone making a similar claim today would be classified as egotistic, to say the very least. However, the solution to this difficulty is simpler than one might suppose. If we now admit that the likelihood of individual contributions by great thinkers in the tradition of Aristotle or Descartes or Bacon is becoming increasingly difficult and will be eventually impossible, this does not mean that great systems can no longer be built. We now have to learn the secret of group thinking.

The social wisdom that we acquire must be the result of the knowledge of many experts in their respective fields who have learned how to collaborate in the most difficult job of making broad blueprints for the future. We need to assemble a kind of super brain-trust. I must admit that I am afraid of that word and I saw all the difficulties when the suggestion was made previously in discussion that we have an International Institute for the Integration of Knowledge. So many people will say, "Here is a bunch of intellectual giants, self-elected, perhaps, who propose to tell the rest of us what we should do." Now it is my belief that the world has to be run by people who have understanding and wisdom, no matter what you call them. Of course the reaction to the so-called brain trust is fairly characteristic, but I think a negative attitude of this kind comes not so much from the broad masses of people, who respect achievement, as from those who are, in their own opinion, going to be injured by that program. The vested interests, in other words. Possibly a more graceful and less antagonizing term than a super scientific brain trust can be found.

In any case, the best minds in the world are needed, grouped into a world institute of some sort, where they would have the leisure, the facilities, and the definite social obligation of creating this over-all system of principles. (Teachers in universities are a harassed, over-worked bunch of people who have none of these three essentials.) If the job were delegated to such a group, I think they could get somewhere.

This Institute, whatever it might be called, would have to be organized for purposes of integrative education. It should not have political functions or connections. Whether statesmen, politicians or industrialists would pay any attention to the social wisdom thus made available is another, debatable question, but at least such over-all plans for the ultimate creation of a world civilization, including a world government based on a world philosophy, would be available. And whether used immediately or not, there would at least be no criticism of those whose job it is to provide leadership in understanding, and who are not now doing that job.

WHY INTEGRATION?*

Donald Faulkner

The master greeting his pupils asked, "What would you learn of me?" The reply came: "How shall we take care of our bodies? How shall we rear our children? How shall we work together? How shall we live with our fellow men? How shall we play? For what ends shall we live?" And the teacher pondered these words. And sorrow was in his heart; for his own learning touched not these things.

No doubt this teacher, in common with thousands of others in the school rooms of our own and other nations, could have answered questions on mathematical theories, on literary criticism of dead and useless languages, on historical dates, on the love-life of Crustacea. But in general our teachers are not trained, and our schools are not organized, to help young people grow to live full, rich lives. As educators we know little about developing personalities attuned to their total environment. Our training is aimed at teaching a certain set of facts, and training a certain set of skills in a relatively limited field. We feel little, if any, responsibility for developing the relationship with other fields, or for developing or even thinking through the relationship of our own set of facts and skills to the responsibility of Youth to Society.

Education which does guide the student toward a recognition of his responsibilities in Society, and helps him gain the full powers necessary to discharge these responsibilities is Integrated Education.

Integrated Education sees the whole person. It demands that he develop all his capacities. It is dissatisfied with facts or skills, however intriguing, if unrelated to the fundamental purposes in the learner's life. It is also unwilling to limit its interest in the individual to facts he should know and skills he should master. It concerns itself as well with his attitudes and with his actions.

This sets one of the reference points in our discussion of Integrated Education, for we can speak of education as integrated only when it has as its objective this development of individuals of integrated personality, consistent in ideals, thought and action.

Integration Not New in Education

Very ancient man learned a bit about this part of his environment, and a bit about that part, until, after thousands of years, he knew a great deal in certain limited areas — enough at least to guarantee survival. Soon after the dawn of recorded history, Athens through her philosophers brought these bits together into one meaningful whole, a great philosophic system consistent with the scientific theories and adequate for the social ideals held in that day.

The church of medievalism achieved an advanced state of integration in both culture and education — integrated around the central motivation of eternal salvation. Confucius recognized the need for integration and consistency, endeavoring to achieve it through

the principles of "understanding," "love" and "will."

The American frontier effected integration in the training of its youth through concentration on the very rigor of survival. Hitler built a thoroughly integrated and devilishly effective system of education around Aryan supremacy.

Modern American education has developed pattern after pattern of integration in education. The child-centered and the problem-centered school are efforts to highlight integration. The philosophy of The Great Tradition has been and still is the basis of efforts at integration of the curriculum of many colleges. The acquisitive instinct certainly made the rationale of money-making and gain-seeking a powerful integrating element in American education of the early 20th century. It is still influential, although questioned as to its adequacy in an atomic age. The perpetuation of the aristocratic class in England has given integration to the English school and college system.

The experimental college of Alexander Mikeljohn spent one year on the study of ancient Greek civilization in an effort to get students "to see as a whole the integrated problems of a whole civilization." And of course, the movement from unrelated departments of study in the liberal arts college to the divisional organization, as well as the development of broad survey courses purport to be in the interests of integration.

The present situation

Our college curriculum grew out of, and has its historical roots in, an integrated course of study — the liberal arts of the medieval university, a course of study satisfactory for the simple, flat-world, aristocratic outlook of that era, but inadequate for this day of democracy, urbanism and atomic fission. It has grown by addition and division. To a large extent, the growth has been unrelated to any central purpose of the college or of the Society it serves. This growth was dictated by advances in certain arts and sciences, by needs in professional fields, and by professors' riding their hobbies. It is perpetuated by the vested interests of the teachers themselves.

The ineffectiveness of this educational cafeteria, and of even the sum total of the efforts at integration which have gone before, can be seen on all sides. Our personal inabilities, and our national disinterest in good reading, our low moral status, high divorce rate, the lethal character of our automobile driving, our juvenile delinquency and high criminal ratio should give us pause. In spite of the standing of our high school and college enrollment at a high-water mark for this or any other country (matched only by the enrollment in our mental and penal institutions), the average age of criminals in the United States has dropped from 36 years in 1933 to 19 years in 1938, and on to 16 years in 1947.

Our leadership, or lack of it, in the world scene calls our educational program into serious question. And the total situation of this sorry globe of ours makes imperative a re-study of what our learning "touches."

* Report of an address by Dr. Faulkner at the opening meeting of the Workshop, August 16, 1948.

Two devastating world-wide conflagrations have placed our civilization in jeopardy. A war to make the world "safe for democracy," and a war to guarantee the basic freedoms of the common man, led first into an intervening peace of unprecedented suffering and dictatorship, and then gave us an unstable two-bloc world. In this world Argentine and Spanish fascism and Russian communism — just to mention a sample — limit the human rights of millions as only Hitler, Mussolini and Hirohito could do at their worst. And the governors of sovereign states in the United States lead the bolt of a major political party to protect "white supremacy."

With leadership on neither side competent nor perhaps even interested in doing something constructive about the difficulties, two powerful erst-while allies, supported by the rest of the "civilized world," stand poised to start World War III, with the atom bomb to assure this time the complete destruction of our culture. And as if the speedy and guaranteed destruction by atomic fission were not enough to satisfy the sadism of our world, we have allowed population growth and soil erosion to reach such a state that even without a major war the destruction of the Race is sure — merely retarded.

Like Matthew Arnold, we appear to be "wandering between two worlds, one dead, the other powerless to be born."

The Meaning of Integration

This, then, is the urgency of the present. Education, having assumed a central position in the direction of Society, does not itself know what Society should be, nor how to shape the destiny of the Race. The School at the moment can do little more than recognize that catastrophe faces civilization, and along with Industry, Government and the Church, shudder at the prospect, and admit, conscience stricken, the futility of its present resources, methods and organization.

Time is running short, "it is later than many think." And yet the situation is only hopeless if no action is taken. A strong United Nations with police powers, could stay, momentarily, the sand in the glass. But even for this to work, the cooperation of Education is necessary. And, if Education is to give us another chance, it must re-orient itself. We must learn where we ought to be going and get down to the job of steering civilization along that course.

This is the business of Integration in Education.

Integration in any realm of human endeavor has no meaning alone; Integration is not achieved in a vacuum. It comes into being in relation to some property or goal of that which is integrated.

There are two applications of this meaning of integration: the one, immediately practical, from the known to the unknown, starting with the courses of study we have and admitting that while we are rebuilding the house we must go on living. With two million college students today, and a million or more new students, the college must go on, using what is valuable in already existing courses, finding integration in broader and broader concepts.

The second is based on the discovery of a central

purpose of transcendent importance. In the light of it, desirable ends — attitudes, facts and skills — can be chosen, and around it appropriate learning situations can be constructed.

It is the intrinsic value of this central purpose, however, which determines the value of the educational system. Mere effectiveness is not sufficient. We must ask these insistent questions: Effectiveness for what purposes? Education to what ends? The Germany of the Kaiser and of Nazism built educational philosophies and systems of tremendous effectiveness around very unworthy central purposes.

Nevertheless, we cannot prejudice the outcome by prior selection of a narrow central purpose. A full and orderly investigation of the world, of the nature of the individual, of relationships in Society, and of the process of learning must show the necessary elements. For, as educators in a democracy, made up of people of all religious creeds, economic ideologies, social patterns, we shall need deep-lying integrating principles.

The integrated personality understands his universe, including his fellow men, senses values, recognizes his place or function in Society, and is not only capable of growth but gives evidence of continuous growth and development. Integrated education — education to develop integrated personalities — will have these same characteristics of selective inclusiveness, of pattern or structure, of functionality and of growth.

An educational program, integrated with respect to the individual's responsibility to his fellow men, will be selectively inclusive. By this we mean that every learning situation which enters the curriculum must stand the test of its relationship and contribution to the central purpose of that curriculum. Facts for their meaning to the student and not simply because they are facts, theories and laws for the same reason, will be used.

A well integrated educational program evidences its relationship to life. Life is organismic, for man is an organism. Education must partake of this characteristic. The system while it is developed must have order. If it is to achieve its values in life it cannot be fragmented, disjointed, unrelated in its multitudinous aspects.

Integrated education is useful education. As Goethe wrote:

"I detest everything I am merely taught
and which I cannot put to good use in
my actions."

A specific learning situation finds its place in the course of study of a student because, and only because, it has a definite task to perform for that student.

Integrated education will guarantee opportunity for continued growth of the individual. Education deals with the free man; it has nothing to say to the slave except to incite to revolution and to shame the enslaver. Integration leads to initiative, to the development of creative efforts.

How attain Integration?

Integrated education can be attained for a student, a school, or a nation easily and speedily if a simple central purpose is chosen. An authoritative or totalitarian system has a simple task in selecting teaching

materials to gain its ends. The perpetuation of "white supremacy," or of nationalistic ideals of the "America Right or Wrong" variety, or of the creed of one of our numerous religious expressions, used as central purpose for our educational system would lead to simple techniques of integration. But perhaps there are those who cannot in any framework of personal integrity support the chosen purpose, and our proposed integration becomes an enemy to good education in a democracy.

Democracy is complex and difficult of accurate and acceptable definition. But efforts to effect integration around its central tenets are both possible and rewarding.

Modern methods of curriculum construction are very effective in developing educational machinery to perform a clearly defined educational task. Our difficulty is in the first steps of developing the principles, the philosophy and the theology of our goals. It is that central motivation which we hope to see developed in society through education that must first be determined. The problem for national leadership in education is to state the central purpose in meaningful and broad terms to gather up the essence of democracy. The task for the church-related college is likewise to develop a statement of the educational implication in Christian faith which becomes for these schools the integrating principle, the norm of selection of materials and of development of methods. The task for the individual teacher, faced with an individual student, is the same: to endeavor to aid the student to select what is for him the best possible purpose.

Integration is thus functionalization. But it is, at the same time, generalization. The student's chosen central purpose is the arbiter of the choice of learning situations; everything done in the school aids in achieving the central purpose. But all these items are specifics and as specific elements of life have values — relative values in the light of the central purpose. The student, in experiencing these specific items in some series, is aided in seeing relationships between items, tying them together in broader and broader meanings, finding meaning for himself in items from science, history, vocation, art, music, recreation. This is the process of integration involved in developing a personal philosophy of Life — a scale of values.

The student is guided by his counselors (and the integration of education will place a premium upon guidance and counseling), to develop his own central purpose in Life and to understand and appreciate it as his guide in selecting courses of study, each hour of which must aid in achieving his central purpose, imperfect as it will be at the outset. The processes of study and counseling will add meaning, day by day, to this central purpose. The process of generalization from the specific items of the day's experiences toward a broader and broader purpose in Life, clarifies the initial choice.

For the teacher, and hence for the school, integration in education does not simplify the process. The task is increased multifold, for every step is individualized, the differences in individual capacities and characteristics placing new demands upon teacher and school.

Also for the teacher and for the school, integration in education places a new emphasis upon the community.

Life itself is the laboratory of the school. The school becomes a community. Facts, skills, deeds are not isolated, not limited to the four walls of the classroom, but are part of the very blood of community, tested by their value to the child's life in the family, on the street, in the store, and church.

Under integration, Democracy is not taught in the classroom — it is lived there.

We have defined integrated education as education which builds or aids in the building of integrated personalities. This relates the school and the individual. The view just outlined of the relation of the school and the community drives our definition outward in another dimension. Integrated education is deeper than the lectures of the professor, for it encompasses the student; and it is broader also than his lectures, for it encompasses the community — society. Integration in education must affect the entire social and economic milieu which impinges upon the student and the school. Society must feel the weight of integration: its techniques must be scrutinized; its objectives clarified; its ideals evaluated. Society must find integration.

The future will demand the carrying forward of a process of integration already contributing deep meanings to the physical sciences, the discovery and careful outlining of broad concepts transcending the boundaries of a single discipline. Such concepts have permitted physicists, mathematicians, chemists, engineers to cooperate in fields closed to any one of them alone.

Professor John Perry wrote in "The Electrician" of January 26, 1894 of the Laplace Equation:

"There is a well known partial differential equation, which is the same in problems on heat-conduction, motion of fluids, the establishment of electrostatic or electro-magnetic potential, certain motions of viscous fluid, certain kinds of strain and stress, currents in a conductor, vibrations of elastic solids, vibrations of flexible strings or elastic membranes, and innumerable other phenomena. . . .

"Much has been written about the integration of the physical sciences; but when we observe how a young man who has worked almost altogether at heat problems suddenly shows himself acquainted with the most difficult investigations in other departments of physics, we may say that the true integration of the physical sciences lies in the equation of continuity."

The space-time concept has further broadened the integration of the physical sciences; and developments in mathematical physics leading to atomic fission and advanced electronic and magnetic theories are bringing about further synthesis. This general idea of the development of concepts extending across the more or less arbitrary lines of demarcation among the classical educational disciplines must be continued. In fact, the extension of the process from the physical sciences outward into the natural sciences and the social sciences may prove to be the central technique in making education, through integration, more effective.

Our Responsibility

Educators are today the stewards of the jeopardized remnants of what promised to be, until Hiroshima, a

glorious civilization. This era of Science and Industry was glorious at least for certain white men in certain countries, and in certain places of security within these countries. We have learned that security and plenty and tolerance are either of a world-wide fabric or are mere camouflage. There can be no security, or plenty, or freedom for one color, one creed, one race of men, at the expense of other men. That we know today.

SOCIETY AS THE PATIENT

A Review

The legitimate complaint of isolationism delivered against the social sciences is losing force. In *Society as the Patient*, Lawrence K. Frank has collected thirty of his essays on culture and personality (Rutgers University Press, 1948, \$5), in which every kind of resource from psychology, anthropology, law and other areas is applied to the human dilemma, or criticized as to its utility, in an atmosphere urbane, helpful, and humane. The author appears through this work as one of the several scholars whose breadth of knowledge and interest has fitted them to work well at the task of seizing and using the new techniques, such as social metric or parapsychology, now coming into use, however poorly understood as yet.

"In any culture," says Dr. Frank on page 215, "we find that the basic conceptions that underlie the whole framework of man's life are concerned with the nature of the universe, man's place therein, his relations to his society or group life and to other individuals, and finally his conception of human nature and of the self. The content and the sanctions of religion, of morals and ethics, as well as the fundamental character structure developed by a culture, are built upon and in turn express these conceptions. These ideas and conceptions may be said to constitute the world in which man lives since, under their guidance and patterning, he learns to see and think of the world of events and people. In a very real sense, they organize life for him by imposing upon the world of people, objects, and events a 'structuralization of the life space,' as Kurt Lewin has so well said, which gives his life its meanings, significances, and values and so controls his conduct."

The author then continues, in this essay on general education, to describe the completeness of the conceptual breakdown of our times, which is the potent cause of so much psychophysical disaster. He resumes (page 219): "General education faces the task of rebuilding the older conceptual world (that is being destroyed by modern science) upon the emerging scientific ideas, conceptions, and beliefs of today and tomorrow. General education also must reconstruct the areas of ethical belief and conduct that have likewise suffered disintegration."

It is a weakness of books of collected essays that the

Our task is to recognize the fragmentation of our educational program and accomplish as much as possible, as speedily as possible, toward building a new curriculum, with new methods, integrated around the responsibility of the individual to his fellow men — the brotherhood of men in one world. We have so little time.

constructive program is usually only implied. How, therefore, Dr. Frank sees this task can be accomplished is not as clear to this reader as is his conviction that it is imperative. But his emphasis upon the importance of mutuality of appreciation by cultures, the emphasis upon science, the powerful role of the psyche, and the like, form substantial encouragement that he, like many others, realizes that the answers are not in the habitual routines of physicalism. If his references to the need for multidimensional thinking (as on page 364) are not conclusive, they are at least provocative. The reader who comes upon the essay, "What is Social Order?", will be inspired by the feeling of an embracing cosmic system in which human warmth, culture, and values are to be of the very stuff of the structure, not merely some cold light illuminating theatrically a system mainly material, and meaningless because heartless.

EDUCATION AS EMANCIPATION

Harold Bauer

In *The Etude* for May 1948, Harold Bauer opens an article on "Education as Emancipation" with the following two paragraphs, as reported by Rose Heyblut. Mr. Bauer divides his time between the Manhattan School of Music in New York City and the Julius Hart School in Hartford, with guest terms in Southern colleges. [Copyright 1948, The Theodore Presser Co.]

"Some years ago, the Association of American Colleges invited me to make an interesting tour of investigation. The purpose of the investigation was to present recommendations, in reference to music teaching, to be passed on to the Carnegie Foundation for the awarding of grants. My personal interest in the project centered in the educational problems and conditions I was thus privileged to observe. One of the chief problems dealt, not with the 'poor student,' but with the one who had made acceptable grades, passed all his examinations — and who then came back to visit his Alma Mater, having forgotten everything he had learned, except the limited number of facts and skills which enabled him to earn his living. It was a matter of common occurrence thus to find a successful young salesman who had shaken off his entire acquaintanceship with world history; a prom-

ising lawyer who inclined to smile at the efforts he had put into studying algebra. 'Education,' apparently, meant an amount of knowledge assembled for the purpose of serving a tangible, practical end; anything not serving this end could safely be ignored. I mention this experience because it illustrates so clearly all that education ought not to be.

"To my mind, education means emancipation. We study not merely to earn, but to make ourselves better-rounded citizens. This demands that we win the mastery of our thought processes; and that, in turn, demands that we free ourselves from misconceptions — all sorts of misconceptions, in all sorts of fields. My activities in the college experiment consisted in visiting classes of all subjects and grades, talking to the students, and trying to find a means of establishing connecting associations between the various studies. In classes the subjects of which were quite out of my line, I would listen and then, at any given moment, raise my hand to suggest an interesting association between, let us say, metallurgy and music; to ask the students to discuss what such a connection could be. In a word, I tried to integrate studies because such integration is, to my mind, the purpose of education. It is an excellent thing to study Biblical history; it is even better to relate Biblical history to a consideration of present-day problems of civil government."

TOWARD MATURITY Book Notice

In introducing *Toward Maturity*, by Marie I. Rasey, Professor of Educational Psychology, Wayne University (Hinds, Hayden and Eldredge, New York, 1948, \$3), Professor Gordon W. Allport begins: "In this book I feel a new spirit blowing — a spirit that sweeps away the dust of impersonality which has settled over much of the educational psychology and child psychology taught in this country."

To an unprecedented degree, no review can convey Dr. Rasey's achievement, because it is brought about by novel methods. There is a minimum of exposition and a maximum of example and of analogy and imagery, so that we have the illusion achieved of being inside the child's world or mind or feelings. To defeat formalism, the author herself appears in paragraphs which are set off by actual expressions of children, or apt quotations from others, or items from teachers in training, and other sources.

At the Workshop, reported in this issue of *MAIN CURRENTS* so extensively, Miss Rasey applied the same method (which consists in having no obvious method) to an address she gave. The good she did some of the most hardened sinners-in-systematics was immediately acknowledged by them. It is clear that the habit of not having too many habits is a successful failure in this case! What it conveys is a sense of hidden bony structure, in contrast with the glittery exoskeletons of most of us confirmed pedagogical insects.

It is recommended that this book be experienced. Let the examiner in spherical harmonics and the professor who asks about the use of the aorist ponder much more searching questions such as these: "What is God's last name? Where does the wind go when it blows? What is the night?" (Page 7.) Out of the mouths of babes may come some redemption. By such methods we may yet have a society which suffers little children without making them suffer denials of their spiritual innards by suffocation in physicalism, by deprivations of what counts most: deep love, quiet assurance, overwhelming beauty, freedom to know.

Those who have known this author long years are truly glad to have from her a text which represents her as she is: "... a woman trained in science, experienced in teaching, gifted as a poet, and blessed with common sense," once more in Dr. Allport's words. To those who have not had this privilege we suggest, in an English, not an American sense, that this is an opportunity to get wise.

F. L. K.

FOR INTELLIGENT LIVING A Catholic Evaluation

At the Annual Meeting of the National Catholic Educational Association, San Francisco, March 31 and April 1 and 2, 1948, the problem of the graduate school and a program of general education was discussed by Dr. Urban H. Fleege, Marquette University, with frequent appreciative references to the President's Report. As the problem of identifying an over-all philosophy for education does not arise in this case (although the task of communicating such a philosophy remains), Dr. Fleege is able to concentrate upon highly practical proposals for the introduction of training for general education at the graduate level. His suggestions will be found in the Bulletin of the Association, dated August 1948, and containing the complete account of the papers read.

Centrally he raises the question as to the nature of courses in general education. "First of all they are explicitly planned and taught with the objectives of general education in mind. They are not simply a dilution or restyling of existing courses nor a stringing together of the fundamentals usually found in the specific courses in this area. . . . General courses are broad in scope, they emphasize generalizations and the application of principles rather than the learning of factual minutiae. They show the relationships between subject matters not ordinarily brought together, they cultivate in the student the habit of looking for and discovering broad meanings. This does not mean that general courses are elementary or superficial. They are no easier than specialized courses; if anything, more difficult from the point of view of the teacher. The real difference lies in function and purpose; the function of general education courses is not to develop a learned man or professional technician but to provide the basis for intelligent living regardless of the type of life man may chance to have or the circumstances which surround it."

THE PLANNED EXAMINATION AS AN AID TO INTEGRATION

V. E. Leichty, Basic College,
Michigan State

When we speak of integration many of us tend to think only in terms of breaking down barriers existing between subject-matter areas. Actually, it involves much more than that. A course is not integrated by giving it a new name or by changing its composition from a course consisting of one area of subject-matter to one consisting of several small units of various subject-matters. A course is integrated only when it demands that the student understand the interrelationship of its various parts and the relationship of those parts to the work he studies in other courses and eventually, of course, to situations which face him in everyday life. Thus formal logic might well be a unit in freshman English, but it would not be an integrated unit unless it were related to such other materials as organization of material for themes, critical reading, semantics and propaganda analysis, persuasive writing or speaking, the scientific method, the necessity for intelligent reasoning in a democracy, and the need for clear thinking in a business or profession. If taught in this way, formal

logic might well be made the core of an integrated course. The scientific method would serve equally well or, for that matter, the history of painting.

The great question for integration is not Where do we start? or With what do we start? but Where do we go?

Obviously, the only answer to such a question is careful planning. The course objectives must be clear. And they must be concrete. Unfortunately, most course objectives are neither. Most English teachers would agree upon "knowledge and understanding of acceptable usage with respect to grammar, pronunciation, spelling, and mechanics of the manuscript" as an acceptable course objective, but as soon as some effort is made to define such a term as *acceptable usage*, it will be found that some members of any staff are poles apart. If the course objectives relate to a number of different subject-matter areas, confusion is likely to be confounded.

We are facing this problem in our Basic College courses at Michigan State and, I believe, are making

CONTENT AREAS IN THE COURSE

EXAMINATION OBJECTIVES IN PHYSICAL SCIENCE	The Universe and Solar System Scientific Method	Origin and Composition of Earth Rocks-Minerals	Atmospheric Movements Clouds Weather	Atomic and Kinetic Theory Gas Laws Heat	Mathematics Variation Functions Right Triangles
* Number of Lectures —	IV	V	III	VI	V
* Number of Laboratory periods	I	IV	I	III	IV
* Total time in each area —	$\frac{V}{V}$	$\frac{IX}{IX}$	$\frac{IV}{IV}$	$\frac{IX}{IX}$	$\frac{IX}{IX}$ *
I. KNOWLEDGE AND UNDERSTANDING OF					
A. Scientific facts and terminology	5	12	3	4	2
B. Principles, laws, and theories	2	3	2	4	2
C. The mathematical treatment of physical concepts	1	..	1	2	..
D. Theoretical assumptions and valid experimentation	1	1	..	4	..
E. Definitions and generalizations	2	4	2	2	2
II. SKILLS AND ABILITIES IN					
A. The solution of mathematical problems..	1	4	6
B. The application of principles to familiar problem situations	2	4	1	3	2
C. The application of principles to new problem situations	1	2	1	4	2
D. Laboratory procedures and techniques...	..	2	..	1	..
E. The formulation of generalizations from specific facts	2	2	1	2	..
F. The interpretation and use of data, tables and pictorial material	1	3	3	3	4
	18	33	14	33	20*

some progress toward a solution. One important factor in forcing this progress is the comprehensive examination system which is used here. Under our system the student's entire grade for a Basic College course is based upon his performance on a four-hour comprehensive examination. Since so much depends upon this examination, every effort is made to plan it carefully. We want an examination which will cover all of the objectives of a particular course upon which a student should be graded, one which will sample all of the subject-matter taught, and one which will evaluate the different objectives and different units of subject matter in terms of each other — i.e., an examination so balanced that undue emphasis is not placed upon any specific objective or any particular unit of subject matter. The best method of planning such an examination is the construction of the accompanying two-dimensional tabulation. On this chart the objectives form one axis and the subject matter the other. The first problem in filling in such a chart is the determination of the relative importance of each objective and each unit of subject matter. This is determined by the examiner in consultation with the department or a committee from the department. As soon as discussion begins it becomes apparent that these objectives, upon which all have previously agreed, mean many different things to dif-

ferent individuals. The first problem obviously then becomes a definition of terms and a restatement of objectives in more concrete form. When this has been completed, those who have participated in the discussion not only know where they are going, but why they are going there and by what means they expect to get there. If, as in our case, integration is a major aim, the method of achieving that integration has been outlined.

Once these points have been determined, they must be kept constantly in view by the teacher. Here, once again, the comprehensive examination system proves an aid. The facts that the plan of the course is also the plan of the examination and that the students' grades are to be based upon an examination built upon that plan constrain the instructor to stick to the plan in his teaching.

The service to integration which may be rendered by the examination is that of keeping the objectives constantly before the instructor. If those objectives are not such as will bring about integration, the planned examination can serve equally well as an effective block to integration. The solution lies in the philosophies of the people who make the plan for the course and the examination. The two-dimensional plan can force them to clarify their thinking, but it cannot dictate what the end result of their thinking will be.

Weathering Erosional Agents Deposition of Sediments Field Trip	Mechanical Energy Gravitation Forces and Motion	Electrical Energy Statics Magnetism Electrical Effects	Chemical Energy and Changes Acids-Bases	Earth Movements Diastrophism Vulcanism Isostasy	Wave Motion Light Sound Electro- magnetic Radiation	Metals Non-Metals Fuels Carbon Compounds Periodic Chart	* Total Number of Items *
III I IV	III III VI	VI II VIII	V V X	III o III	V V X	V I VI	
6	3	6	8	2	8	4	63
4	3	3	4	2	4	3	36
..	2	2	2	..	2	2	14
..	2	2	3	..	3	2	18
2	2	2	3	2	3	2	28
							159
..	3	4	4	..	4	..	26
2	3	2	2	2	4	3	30
2	2	2	4	1	2	1	24
..	1	2	3	..	1	1	11
2	2	1	2	..	3	..	17
2	2	2	3	2	4	4	33
20	25	28	38	11	38	22	300 TOTAL

On the uttermost frontier of thought is progressing a desperate struggle to achieve solid understanding in new terms of space-time of the central mystery of life: sentience, purpose, and of forms and functions. We have already noticed *General Biology and Philosophy of Organism*, by Dr. Ralph S. Lillie, University of Chicago, 1945, in these pages. The work was also reviewed in *Philosophy and Phenomenological Research* (June, 1947) in searching style, and the criticism there roused the author to a long rejoinder, which serves to focus his thought upon the truly epochal advances in which he is a leader. His critic has thus done us all a good turn. With the permission of both editor and author we reproduce Dr. Lillie's comments upon Professor Werkmeister's review, which occurred in *Philosophy and Phenomenological Research* for June 1948. We do so because it is impossible to exaggerate, we believe, the importance of understanding sentience, and of salvaging a philosophy of life from the shambles of crass materialism. If mankind is to save itself from the increasing spread of insanity, ghastly diseases, social and domestic disorders, and barbarous wars, then the place of sentience must be understood. That understanding is no longer possible in customary terms of chemistry, which merely denies its existence. It will be possible to understand sentience in new terms. For these the author of this rejoinder is stubbornly groping. Beyond sentience lies affection and redemption in man. No source material in philosophy surely therefore exceeds this kind in significance to all of us? F. L. K.

Professor Werkmeister's review of my recent book, *General Biology and Philosophy of Organism*, is in many respects so misleading that a somewhat full reply appears necessary. His initial statement "Lillie's naturalism is distinctly anti-mechanistic and anti-materialistic" is so inaccurate that I am at a loss to understand how he could have formed such a judgment. Throughout the book I am at pains to emphasize that the conception of the living organism as a psychophysical unity in no way conflicts with, but on the contrary, requires, a recognition of its status as a physical system, acting with physical precision and dependent on a balanced interchange with a physical environment. Exact investigation of its physical and chemical characteristics is therefore indispensable. But its physical side equally requires investigation; as an object of experience we observe the organism to be both physical and psychical. Its physical stability is an index of the constancy of its physico-chemical constitution and routine activities; while its novelty of action and the tendency to depart from routine, as shown in its evolution and the unpredictable features of individual behavior, are to be regarded as having their chief source in the psychical. In my final chapter I summarize this general conception as follows (p. 195): "The essential property of matter is stability, conservation: . . . the living system is an organization of atoms, and its stable properties are described in terms of physics and chemistry. Like other natural systems, the organism is a composite of stability and activity. Physiology describes its physical properties; these, as physical, are stable and routine. Within this framework of stability appear the factors and elements of novelty. These, if really novel, appear as psychical rather than physical in their origin and essential character." (See also, e.g., Chapter II, pp. 47 seq.)

I recognize definitely that the psychical factor, as an integral part of the psychophysical system which is the living organism, can act only within the restrictions imposed by the physical (past, established) conditions existing in organism and environment. Survival requires that the organism should conform to these conditions; and since the system is thus physically conditioned, even its psychically controlled activity appears to external observation as physical. But in reality psychical and physical are inseparable, although usually they are considered separately. The psychical component is pres-

ent-acting and internal, centered in the physical organism, characterized by anticipation and subjective aim (Whitehead's terms) which are represented in consciousness by purpose and volition; all these features are facts of introspective observation in higher animals (man). Their presence in lower organisms is assumed rather than proved; but evolution implies origin by gradation; and apparently the primary matrix of nature from which living and non-living organisms have evolved has become diversified in a variety of ways, with intensification of the psychical in higher animals. Psychical characters are not necessarily conscious (p. 71), and we have no scientific information as to where they begin and end. Apparently the primary expression of the psychical factor is seen in the synthetic, directive, and integrative activities so highly developed in many organisms (cf., e.g., p. 48).

But these activities are intimately dependent on the physical. To carry out any definite vital course of action, novel or otherwise, requires a regularly acting physical mechanism or foundation. This is illustrated on page 136 (cf. also p. 95) where I describe briefly the neuromuscular mechanism of human voluntary action. The psychical act of volition releases (in some unknown way) a chain of physical partly electromotor processes (nerve impulses) which are transmitted along certain preformed routes; and the controlled outcome in the organismic activity depends on the physical precision of these processes. In Chapter V (Randomness and Directiveness) this kind of dependence is illustrated in further detail; see also Chapter IX (Teleology). Throughout the book the precision of the organism as a piece of physical machinery is insisted upon, so much so that I can easily imagine a captious reviewer denouncing my treatment as ultra-mechanistic. To be reproached as an "anti-mechanist" comes as a surprise! But these terms, mechanistic and vitalistic, are now so often used in a rhetorical rather than a scientific sense that they are best avoided in scientific or philosophical discussion.

Directiveness, including its present-acting psychical component, must act within a stable physical field if its action is to be physically effective. In the living organism this field is a product of evolution, and psychical factors, not now apparent, are assumed to have played a part in its origination. It is now generally accepted that fundamental physical factors owe their regularity

to probability conditions and statistical summation. To break the routine thus established requires the entrance of novel factors, including, especially, the psychical and directive. On page 130 I remark: "In modern physics probability conditions are regarded as having a maximum of stability and as underlying the stability of physical action in general." Stability implies balance or symmetry of action; the directive influence introduces an element of asymmetry into the otherwise regular field. It seems clear that apart from the effects of asymmetrical action the natural world would lack diversification, i.e., events would have a uniform structure and distribution. But nature, especially its living part, is in fact highly differentiated, and stereochemical asymmetry is especially characteristic of living organisms (cf. Chapter V, pp. 83 seq.).

I have characterized nature as the field of individuation (p. 5); and lack of complete predictability is a character of individual action (cf., e.g., p. 106). Here is where the evidence for indeterminacy is to be found — not in the physical principle of Heisenberg, which in itself merely assigns limits to the exact observation of single events. Departure from rule, initiation, novelty, creation, have their source in the individual actual entity. Each individual, *qua* unique, is a law unto itself. General rules defining or restricting the behaviour of individuals are reached inductively and are statistical in character; they define probabilities, and their application to the individual is correspondingly limited although the limits vary widely in different cases. Where the psychical quality is most developed, as in higher animals, autonomy is at its maximum. Indetermination, partial independence of the environment and the past, "freedom" (never complete!) then enter and influence the course of events (e.g., pp. 106, 120, 154, 189).

Purely physical action may be defined as action which within its restrictions (imposed by environmental conditions and the past) is random or undirected. Diffusion in fluid systems exemplifies this randomness (pp. 32, 33); acting by itself it leads to uniform (symmetrical) distribution of components. Diffusion plays an indispensable part in living systems, and during life the forces of diffusion are continuously being offset by other factors which I have called collectively (for convenience) anti-diffusion factors (p. 33). But I have not made the fantastic generalization, which Professor Werkmeister attributes to me, that anti-diffusion factors "are" psychical factors! Is a gland like the kidney actuated by psychical factors? Or an artificial anti-diffusion machine like an electric refrigerator? On page 34 I state, in considering the selective work of concentration continually performed by living organisms: "The general process to be accounted for is the transformation of a dilute solution of nutrients and salts into the living protoplasm." Obviously anti-diffusion factors enter here, but as physical, not psychical, factors. To reverse diffusion requires physical (e.g., osmotic) work, i.e., the addition of free energy to the local region under consideration (p. 38). This energy comes directly or indirectly from the environment. An important part of the energy required for organic development and maintenance

is of this nature. To illustrate: each human being is built up from the fertilized egg by a complex process of de-mixing and constructive metabolism; in this process its nutrients, salts, and oxygen are derived from a thoroughly stirred and homogeneous solution, the maternal blood-plasma (which may be compared with a culture-medium). The energy expended in carrying out this work of selective concentration and synthesis is directed with extraordinary precision (cf., e.g., pp. 171-2); and the biological science of genetics represents a systematic effort at the experimental determination of the factors involved. These factors are usually considered to be purely physical; the genes are physical agents, each gene having its unique highly developed chemical specificity. I have, however, also thought it worth while to point out that in human beings, and some other animals, an important part of development requires the participation of psychical factors; this part is the period of training and education during post-natal life (cf. pp. 170-187). In this instance there is exemplified a developmental process in which both physical and psychical factors are observable and experimentally modifiable.

Professor Werkmeister seems to find an inconsistency in the fact that in discussing the vital processes I should at times speak of physical and psychical factors as if they were acting singly and independently. Since the organism is a psychophysical system, neither factor can in strict realism be regarded as acting alone. I can only point out in reply that abstraction, in its various forms, is a necessary feature of scientific procedure: the mathematical representation of physical nature is a sufficient illustration. In the purely physiological consideration of neural processes any possible psychical component is disregarded. In non-living external nature, apart from the products of living organisms (nests and other constructions), we see little if any evidence of a psychical factor. It is a special characteristic of the living organism that in it the psychical factor assumes such importance or dominance; but the existence of the correlative physical is always presupposed. Lucretius' statement (quoted in my motto) holds good today. Yet we are all aware of the difficulties of the "body-mind problem," and Professor Werkmeister has called attention to certain inadequacies in my own discussion. On page 103 I speak of the past of nature as having shed the psychical factor (regarded as acting in present time only); the past would then assume the character of being purely physical, devoid of a psychical component. But, granting the reality of the past, there remains the question: is the psychical shed instantly and completely in the temporal passage of nature? or only gradually and partially? Bergson's account of immediate consciousness hardly settles this question, valuable as it is both scientifically and philosophically. He calls attention to the variability of the conscious time-span; but evidently the problem needs further and (as far as possible) scientific consideration.

I agree that the Maxwellian demon and Driesch's entelechy do not aid greatly in solving the problem of psychophysical interaction. My own suggestion (p. 131) as to the method by which an internal directive factor may influence the course of physiological events is based

on the modern distinction between macrophysical and microphysical causation. The single quantum of energy can hardly be regarded as a particle having inertia in the classical macrophysical sense; and the direction in which quanta are transferred in ultramicroscopic intracellular or intranuclear processes may quite conceivably be determined by conditions of a special kind in which psychical and physical factors are not separable or distinguishable in the sense in which they are distinguishable in the large-scale organism-as-a-whole. The associated organismic action would then be not purely physical but psychophysical; but only its physical moment would be physically effective (cf. pp. 161 ff.). In voluntary action psychophysical determination is immediately experienced as empirical fact. Driesch's conception of entelechy is non-physical, and involves reference to non-spatial factors; I should agree with him that an ultimate reference of this kind is unavoidable. On pages 79-81 I support the view that subdivisional analysis of any spatial actual entity would, if carried far enough, lead to non-spatial elements; this was maintained by Leibniz, and recently by Wildon Carr (whom I quote in paraphrase on page 81). The conception of natural space as infinitely divisible is a derivation from the geometrical conception of space as a perfect continuum divisible without limit; it implies an identification of natural spatiality with the space of mathematics. But mathematical space is a logical construct, and it is illegitimate to regard it as a model, complete in every respect, of the spatial feature in external natural events. To assume the infinite divisibility of spatial or physical nature is to reify the geometrical model, and for this there is no empirical warrant. In *Process and Reality* (page 507, American edition) Whitehead calls attention to the non-realistic nature of mathematical infinitesimals: "ex-

tensive quantity' is a construct," i.e., conceived as homogeneous infinitely divisible continuum. Analogously, logic and mathematics in their finished forms may be regarded as constructs, although they are based ultimately on observation of nature and are acknowledged to be indispensable in scientific procedure. I must protest against the misinterpretation (page 659 of review) that I "infer the ultimate non-reality of matter from an assumed infinite divisibility of 'material' particles." This is an exact reversal of my true position. As already pointed out, I regard matter as a chief foundation of the organismic stability, also as not infinitely divisible! I have no wish to substitute constructs for empirical fact. Undoubtedly biological science has its metaphysical implications; on this subject, however, I have not entered in any great detail in my book. It is curious that Professor Werkmeister does not refer to my evident philosophical indebtedness to Whitehead, whose *Process and Reality* is closely consonant with my own metaphysical view. I may add that the existence of non-spatial factors acting into a spatial or physical world and diverting its course of evolution and individual action into otherwise unforeseeable channels is to me a far from untenable hypothesis. Here I quote with sympathy a sentence from an eminent modern mathematician, the late Professor George D. Birkhoff of Harvard: "the extent of hidden organization in our universe is infinite, outside as well as inside of space and time."* This is an imaginative leap in Whitehead's sense (*Process and Reality*, p. 6), but who can say that it is not fully justified by the facts of nature?

* Address of the President of the American Association for the Advancement of Science, *Science*, Vol. LXXXVIII (1938), p. 601; cf. p. 608.

FREEDOM IN THE PHILOSOPHY OF EAST AND WEST*

J. H. van der Hoop

The crisis now apparent in Western civilization may lead us to look at other forms of civilization in order to be able to obtain a better survey of the structure of our own, and of possible imperfections pertaining to it.

From the very first incipience of his self-consciousness, man found himself faced with the contrasts of his ego and the world, of the spirit and nature, of creative order and matter. Even in his most extreme realism he has never been entirely reconciled to these contrasts. Consequently we see throughout the entire world man waging a powerful struggle to restore this hiatus, to rediscover the unity with himself and with the All. But seeing that the threat to unity and sense arose in various ways, the restoration of the correct unity is pursued in

various ways. There are religions and world-conceptions which are chiefly seen from a cosmic point of view. Other religions and philosophies above all strive after social harmony. In the occidental world the search for unity in one's own self predominates.

If we adopt these three emphases in the pursuit of unity: the cosmic, the social, and the personal emphasis, it will be possible to indicate that in Western civilization the accent in the first place falls on the personal element and then on the social, while with the Hindus the emphasis is laid on the interplay between the cosmic and the personal, and with the Chinese on the interplay between the social and the cosmic. These spiritual differentiations exercise a great influence and thus determine the outward appearance of various civilizations.

We should in the first place ascertain what it means that in the East the cosmic viewpoint is of far greater influence than in the West, while individualism is a

* An extremely condensed version of an article of the same name in *Philosophy and Phenomenological Research*, Vol. VIII, No. 4, June 1948, done with kind consent of author and editor. Dr. van der Hoop writes that the original is the greater part of a book on "Spiritual Freedom" that will appear in Dutch shortly.

typical Western phenomenon. In Oriental religions the supreme divine power is represented as impersonal, and is more or less identified with the phenomenon of the All. It is typical for the Occident that man above all feels himself facing the world-happening as an individual. With all his belief in predestination by God, or in the scientific (pre-)determination of our existence, this life possesses a predominantly personal cachet. It is an adventure, occurring but once, an episode terminated by death.

The one-sidedness of this conception stands out clearly when comparing it with the different view of destiny in the Orient. The loftiest religious visions exhibit distinct differences in India and China, but common to both is the impersonal unity with the All-happening, with the supreme laws which dominate all life. The personal will does not play an important role. The place which the will occupies is in the East filled by insight, which enables one to find the true intention in the great happening. This finds its popular expression in India in the law of Karma, and in China in the interplay of the fundamental forces Yang and Yin. Man is involved in a great complex of attachments that extends from prior existence to birth and beyond death. In the law of Karma this is expressed by the principle of reincarnation.

The Western mind tends to concretize this law to the idea of metempsychosis, but the fact is overlooked that for the Oriental the main thing is an all-embracing causal unity. For the Oriental this unity in all the diversity of the world is a fact, and liberation consists in experiencing this unity. . . .

One must above all not imagine that the oriental ideal of the suppression of the personal in the eternal is only founded on a theoretical philosophical speculation; on the contrary, it is based on the experience of thousands of years. Man can in reality withdraw himself from his daily attachments into an inner sphere of liberty. This exercise is in the East known under the name of Yoga; in the West as Mysticism. The difference between the Eastern and Western civilization lies more particularly in the fact that in the East the mysti-

cal experience pervades the spiritual life, whereas in the West it has remained an interesting but neglected incident. It is striking how little in the Occident the technique and the criticism of inner experience have been deepened and expanded, particularly if this development is compared with that of the natural sciences. . . .

The Far East starts from unity and sees all movement and mutation as a manifestation of this, every static condition as an artificial separateness, every individuality as a delusion of independence. The insight into the relationship between a deed or an individual and the whole is felt as a liberating element, while in the West the aim of the inwardly determined will produces the satisfaction of the correct form of life. The Occidental desires to live and re-create the world according to his own norms, which he has established as objective norms. He has increasingly lost the sense and the eye for subjectivity. The Oriental goes about it the other way round. He looks upon the objects from the standpoint of subjectivity. That is why the Orient possesses a true metaphysic, whereas the West, as a rule, remains stranded in dogma. The technical practice and the scientific assimilation of this inner aspect of experience is, in the East, based on a very old tradition, as compared to which we have in this sphere little to offer.

We are here concerned with the difference in general attitude of mind, by means of which the limitations of the West may be explained, so that we become more receptive to supplementary views. The Oriental wisdom can no more supersede our Western science than it can our striving after harmonious, autonomous personality and our pursuit of social justice; neither can it destroy or improve the Christian ideal of charity. A comparison with the East may, however, enable us to realize the fact that the spiritual foundation of Western civilization lacks unity and coherence since three forms of metaphysics, the Christian, the Humanistic, and the Natural Science forms, stand side by side without taking the other points of view into account. For a better understanding in the Western world, a more fundamental unity in the conception of last causes and ultimate values may prove indispensable.

FROM CAMPUS & CONFERENCE

MAN & THE UNIVERSE

Dakota Wesleyan University

Dakota Wesleyan University, under the Presidency of Dr. Samuel M. Hilburn, has for the past two years been steadily working toward the development of integrated courses that will unite the various fields of knowledge into a meaningful whole for the student. The aim specifically is to achieve and maintain a proper balance of knowledge, skills, and attitudes. Integral parts of the educational program direct the student toward: (1) The attainment of knowledge of the universe, of man, and of his place in the universe; (2) The development of skills in the use of the scientific method,

communication, creative expression, and a vocation which will be useful to society; (3) The development of dynamic motivation for a life that integrates his emotional, intellectual, aesthetic and ethical attitudes in a drive for cooperative, democratic endeavor with his fellow men and with God in building a world where the ideals expressed in the Sermon on the Mount can become the operating principles of society. Towards this end a proper balance is sought in all relationships — home, religious, social, vocational and recreational.

Courses required of Freshmen and Sophomores reflect these objectives. In the Freshman year, in addition to Natural Science, Social Science, English, and Speech or Fine Arts, a one-hour course in Orientation is required which is designed to assist each student in realizing his potentialities and the ways and means of max-

imum educational attainment. In the Sophomore year a three-hour course in Integration is required. In this, knowledge from natural science, social science, humanities and fine arts is integrated around the notions of man, morality and God. Furthermore, throughout the entire four-year program the student is urged to elect courses in the fields of philosophy and religion, since these are considered fundamental to the achievement of the desired motivation. In keeping with the stated purpose of the University's new aims, in which emphasis is being laid upon the individualization of the whole program, psychology and education assume also a very important role in the curriculum.

With the intent of developing further the techniques of the new educational process for living, a summer session was held in 1948 in the Black Hills of South Dakota. The Correlation Group in its report expressed the purposes of the seminar as follows:

"Instead of assuming that the purpose of a curriculum is solely to lead a student into the paths of what is already known in a given field, this procedure is calculated to coordinate a drive to find and to bring all the known resources in every possible field of knowledge to bear upon the solution of some of the ills that are close to tearing humanity apart. This means that problems will be dealt with that directly concern the sound development of well-rounded, integrated personalities, as well as those that will bring creative lives to grip with the shattering social dilemmas of the day.

"It will be seen very readily that most of the curriculum commonly known as 'courses' can assume under this program an importance and relevance to life which is seldom achieved by the conventional approach. Yet, following this procedure, the material basically covered in the regular catalog courses, and for regular credit in those courses, will be amply treated. The vital and basic difference will be that the course will not be taken for, or in, itself, but for the purpose of finding out what it can contribute to the solution of basic human problems of today."

Integration of the various fields of knowledge around a major problem of our time was begun the first week of this unusual summer workshop session. A study was undertaken of the problem of prejudice against minority groups, the Negro American and the Indian American ethnic groups in particular. The problem was opened up by the sociology department, and following this, other departments gave analyses, interpretations and suggested solutions as related to their various fields of psychology, religion, education, economics, art, literature, and recreation.

One of the most interesting and important features of the summer session was the visit of Dr. Rhine of Duke University, during which he described to the students and faculty his work in parapsychology. Dr. Rhine predicted that extra-sensory perception, which now appears spontaneously in many people, may in time become consciously controlled. He feels that the scientific attitude of "let's find out" is and should be adapted to this and all other fields, including religion, and he described his work in parapsychology as a study of the psychic, extra-psychic or spiritual abilities of man,

conducted under the same controlled conditions as are used in the physical sciences. Dr. Rhine's lectures were received with tremendous enthusiasm, and his insight and breadth of view opened new fields of thought and did much to aid the building of the whole integration program.

In a Summary of the accomplishment of the summer workshop, the report states: "In addition to the tangible results of the workshops, seminars and group living, the college gains much from improved faculty and student morale, deeper understanding of mutual problems and the unifying effect of group thinking . . . The feeling of freedom in going from one department to another should not go unmentioned. When the student had exhausted the various avenues open to him, he didn't have the narrow concept of one view, but a rich store of knowledge which covered all the fields in a comprehensive manner, making the material liveable and useful to him and to society . . . It was thought when we first approached the problem of integration and communal living that it would be impossible to have both integration and credits, but through experimentation and constant striving to refine our goals without losing sight of essentials we were able to incorporate both into the program. The group as a whole has succeeded in freeing itself from the bonds of departments and marks for credit, so that full time is being devoted to learning and experiencing the contents of the books in our life situations as much as possible . . . It is true that we have made many mistakes in this experiment but without these we could not have found the many and new paths which we are now trying, or been able to see the perspective of our work. We believe that we have this summer come upon some of the techniques of education which will produce leaders who know where they want to go and how to get there."

The University plans to continue the Black Hills summer workshop sessions for the purpose of applying procedures and techniques of its integrative education program.

INTEGRATED SEMINARS Hillyer College

Consonant with the general trend toward integration in education, President Alan S. Wilson of Hillyer College has announced a new curriculum for Juniors and Seniors who are candidates for the B.A. degree. A definite curtailment of the elective system will be coupled with emphasis on the seminar method of teaching, the purpose of which will be to integrate related fields of knowledge into a broad perspective for the student. Each of the eight seminars required for the upper classes is built around one of the broad areas of knowledge. They include: Understanding Science; Literature—Great Books; Historical Backgrounds of World Civilization; Contemporary Problems of our World; Fine Arts; Philosophy and the Problems of Human Experience; Participation in the Duties of Citizenship; and Communication.

The Faculty has defined the purposes of its Liberal Arts Division to be: (1) to fit men and women to take socially responsible and productive parts in the world of work, both for their benefit and the benefit of society; (2) to help build a set of values that will constitute a design for living; (3) to provide opportunity for participation in community life and public affairs; (4) to develop men and women who understand the broad cultural foundations, the significant accomplishments, and the on-going nature of our society. The Supplement to the 1948-49 Catalog states further, "The faculty feels that these aims are best realized by a program that recognizes individual differences, that places responsibility for progress on the student, that provides for learning as an active process and that utilizes diverse experiences as the means by which knowledges, attitudes and skills are acquired."

DIRECTED STUDIES

Yale University

At Yale University, plans which the Committee on the Course of Study had been in the process of developing for the college since 1940 were adopted by the Faculty in the spring of 1945. This program has been, of course, a continuing task for the Committee since that time, and further developments were recommended in the fall of 1947 to solve the problems caused by the tremendous influx of new students. In spite of this large number (the class of 1950 has 1000 candidates for the B.A. degree), the programs offer a marked degree of flexibility, with special care and attention given the requirements of the superior student.

Following the 1945 report, three main plans were offered the student: (1) The Standard Program, for the great bulk (perhaps 85%) of the candidates for the Bachelor of Arts degree; (2) The Scholars of the House Program, an honors plan dealing with Juniors and Seniors only; and (3) an Experimental Program which would apply to the student from his entrance to his graduation.

The Standard Program was designed primarily to provide the student with the fundamental studies, to acquaint him with the great fields of knowledge, to make him a reasonably competent person in a limited field, and to bring him to that maturity which ought to distinguish the young graduate. This program is still basic for the majority of the undergraduates, but following the 1947 report of the Committee on Course of Study, it has been modified in several respects. Two major motives for the change, as defined by the Committee, were, first, to break across departmental lines and make more meaningful combinations of studies for the general student than single departments can usually supply, and, second, to devote a greater share of the attention and care of the Faculty to the superior student.

In addition to the Standard Major, therefore, the College now offers the Intensive Major and Special Majors, which permit greater concentration on the major by the superior student. The Special Majors are

combinations of studies which have developed in answer to special needs, and include Field Majors, Interdepartmental Majors, and the program called Scholars of the House. This last, which is designed to encourage a small number of specially qualified undergraduates to assume a more active direction of their own education, provides for those capable of benefitting by it an opportunity for independent and original work, either academic or creative, and freedom from formal requirements.

In 1945, the Committee on Course of Study recommended for a substantial number of students what it called "Concentrations in General Studies." The purpose of these concentrations was to ensure that the student who did not elect a Departmental or Special Major should organize his work in his last two years in a more significant way. This suggestion has been incorporated into the curriculum as Divisional Programs in the humanities and the social sciences, which are now offered to candidates for the B.A. degree beginning with the class of 1950. Students frame these programs in consultation with a designated supervisor. Each program consists of a grouping of seven full year courses into a meaningful pattern with reference to a period of time, or about a central theme, or in a particular civilization. A reasonable flexibility is allowed, and at the end of the Junior year the student may, with the consent of the department concerned, shift from a Divisional Program to the Standard or Intensive Major, or in some cases the Special Major.

The Experimental Program, which was to be elected by the student before he began his Freshman year, was an experiment in controlled and integrated education, whose principal feature was a pair of philosophical courses taken in the first two years which attempted to unify the studies of each year. This experiment is now incorporated into the curriculum as a program known as Directed Studies, and is offered to a limited number of Freshmen — not more than forty. The stated purpose of this program is to provide a common background of knowledge for the students in the work of their first two years, which, in contrast to the combination of election and distribution of the Standard Program, is entirely prescribed. This is done in order to explore the values, both for the student and the University, of a completely and carefully organized system of distribution as a common intellectual basis for the work of the last two years. Both in the Freshman and Sophomore years the student will take a discussion course in philosophy whose purpose is to integrate and illuminate the work of the other four courses. To quote from the Yale Bulletin: "In the program of studies for each year the philosopher stands at the center and attempts to draw out in small groups of students the significance of each of the fields of study the student is engaged in at the time, and to show how they all make up a whole."

This Program of Directed Studies is Yale's specific effort to meet the challenging problem of integrating education. It will be of interest to follow its further developments.

FOR SOCIAL RESPONSIBILITY

Keuka College

Beginning with 1948-49 session, Keuka College will institute a new program of Education for Social Responsibility, designed to prepare graduates for active participation as responsible citizens of a world society. It is the aim of the college that each graduate will be a young woman who has demonstrated, as a specific requirement for graduation, a habitual awareness of and a personal interest in the problems of the community, the nation, and the world. The program is to be integrated with academic training in the liberal arts and practical off-campus work in field periods to form a four-year program of activities designed to engender social understanding, civic responsibility, and a recognition of the worth of Christian ideals.

INTEGRATED STUDIES

University of Wisconsin

Provisions for general education and a common experience have been completed and begin this Autumn at the University of Wisconsin. The courses of study are drawn from the humanities, the social studies, the sciences and the minimum skills, as they are in the majority of cases in larger institutions of learning. Guidance and weekly assemblies of the whole body of students (otherwise working in constant groups of twenty-five) for motion pictures, lectures and forums, are among the provisions. Ahead lies a great goal, consciously addressed by the authors of the new effort at Wisconsin. We quote from the booklet by Professor Robert C. Pooley:

"It is this unity in general education which is the desired outcome of an integrated, prescribed program of studies. The courses in nonprofessional education should become interlocking parts of a whole, should add up to something. Each course should be significant to the student not only for what it has to offer him as an introduction to one discipline, but in the light of its relationship to other disciplines. Shared experiences, even though highly selective, furnish the foundation of judgments in relation to an emerging total pattern of learning, as compared with amassing of facts in separated areas of knowledge. Probably no one has stated the ideal of shared and related experience in education better than John Henry Cardinal Newman, from whose *Idea of a University* the following lines are quoted:

That only is true enlargement of mind which is the power of viewing many things at once as one whole, of referring them severally to their true place in the universal system, of understanding their respective values, and determining their mutual dependence. . . . Possessed of this real illumination, the mind never views any part of the extended subject matter of knowledge without recollecting that it is but a part. . . . It makes everything in some sort lead to everything else . . . the elements of the physical and moral world, sciences, arts, pursuits, ranks, offices, events, opinions, individualities are all viewed as one with cor-

relative functions and as gradually by successive combinations converging, one and all, to the true center.

"No faculty or course of study has ever achieved such an ideal for a single student, let alone a large student body. It would be absurd to imply that an integrated program of studies can of itself even approach the achievement of such an ideal. Nevertheless, it is perhaps fair to assert that the uniform and shared pattern of an integrated program provides a setting in which many students may develop in part this 'enlargement of mind' to a greater degree than they might in a program of studies of greater diversity."

THE NEW CURRICULUM

Brown University

A New Curriculum was formulated at Brown University in 1947, and may be examined in a special booklet which opens with a delightful introduction by President Wriston, in which he repudiates the false alternatives of our times: communism or capitalism, democracy or fascism, war or peace. He does not expound what is middle ground in these cases, between war and peace, for example, but his discussion of elective extremism and iron-frame systems of directed studies, between needs of individuals and our duties to the whole common content of the human species, is refreshing. We quote: "By the simple device of assuming that the sitting posture of a student for an hour in a classroom has some relationship to what happens in his mind during that period, it is assumed also that 120 hours of sitting are the equivalent of an education." It is certain that at Brown the role of the faculty has not been delegated to the American Seating Company as yet. At Brown there is a different end in view.

Mr. Wriston continues: "The first responsible task of the Brown faculty was to define the basic minimum pattern of knowledge which every student should have, and to make certain in defining that substantive pattern that he also would have the various kinds of intellectual experience involved in the learning process. The obligation was to see that the student learned which processes require precise observation, which require attempts to frame workable hypotheses where precision is impossible and the absolute unattainable. He needed also to have the deep emotional experience involved in critical and active, not merely passive, appreciation of literature, music, and art. Finally, it was necessary that he develop the reflective process which is associated with philosophy."

The booklet under notice does not indicate how some degree of conceptual unity is achieved in this well-organized general education program, nor what measure of common philosophical ground is attempted by those members of the faculty engaged in this part of the Brown University program. Such expectations may be premature. The important requirement is met that there be a common fund of significant content. As this is worked upon, unifying principles are bound to emerge.

HUMANISM & PHILOSOPHY FOR ENGINEERS Cooper Union

Edwin S. Burdell is the chairman of the Humanistic Social Studies Division of the American Society for Engineering Education and also Director of the Cooper Union. He was the first Dean of the Division of Humanities at the Massachusetts Institute of Technology, and long associated with various efforts to bring suitable general education into technical colleges and engineering schools. In introducing the revised annotated bibliography of the Cooper Union Library of important articles in this field, entitled *The Humanistic-Social Stem of Engineering Education*, Dr. Burdell writes of three fundamental concepts: "that humanistic development is important to one's personal happiness and professional advancement; that the individual engineer must not dodge his social and community responsibilities; and that the engineering profession itself should become more conscious of its place in the world and of the possible effects of its activities upon people."

The bibliography covers the ground from the 1920's to January, 1948, and contains 312 evaluated items. A good deal of the discussion pertains to subjects such as English, economics or sociology. It is premature to expect that serious and sustained efforts to arrive at philosophical education within engineering schemes of study will show largely in such writings, although this is beginning. It is natural that scientific humanism should be regarded as the appropriate vehicle, and science, art, and philosophy be featured. The role of a science of religion is yet to develop.

A COMPREHENSIVE SYMPOSIUM On Feelings and Emotions

The Loyal Order of Moose, with the cooperation of the University of Chicago, is sponsoring the Second International Symposium on Feelings and Emotions on October 28, 29, and 30, 1948. The Mooseheart Symposium, under the general chairmanship of Dr. Martin L. Reymert, Director of the Mooseheart Laboratory for Child Research, is held on the occasion of the twentieth anniversary of the publication, *The Wittenberg Symposium on Feelings and Emotions* (Clark University Press, 1928). Dr. Anton J. Carlson, professor emeritus of physiology at the University of Chicago, is Honorary Chairman.

Among the contributors whose topics have been announced we notice: John E. Anderson, The University of Minnesota, *The Emotional Life of the Child During the Grade School Period*; Philip Bard, The Johns Hopkins University, *Central Nervous Mechanism for the Expression of Anger*; Samuel J. Beck, Michael Reese Hospital, Chicago, *Emotional Experience as a Necessary Constituent in Knowing*; B. P. Bapkin, McGill University, Toronto, *Conditioning of the Emotions*; Walter V. Bingham, Washington, D.C., *Emo-*

tional Aspects of Employer-Employee Relations; Trigg Burrow, The Lifwynn Foundation, Connecticut, *Emotion and the Social Crisis — A Problem in Phylobiology*; Cyril Burt, Univ. College of London, *The Factorial Study of Emotions*; Chester Darrow, Illinois Institute of Technology, *A New Frontier: Neurophysiological Effects of Emotion on the Brain*; John Elmgren, University of Gothenburg, Sweden, *Sentiments in the Light of Modern Science*; C. B. Frisby, National Institute of Industrial Psychology, London, *The Emotional Stress of the Foreman in Present Day Industry*; R. L. Jenkins, University of Illinois, *Guilt Feelings: Their Function and Dysfunction*; Harold Jones, University of California, *The Relationship between the Overt and "Implicit" Expression of Emotions*; David Katz, University of Stockholm, Sweden, *The Thought Life of the Child*; Herbert Langfeld, Princeton University, *Feelings and Emotions in Art*; H. S. Liddell, Cornell University, *Animal Origins of Anxiety*; Donald B. Lindsley, Northwestern University, *Emotions and the Electroencephalogram*; Ivan D. London, Northwestern University, *Theory of Emotions in Soviet Dialectic Psychology*; Jules Masserman, Northwestern University, *A Biodynamic Approach to the Problems of Emotion*; James G. Miller, University of Chicago, *The Experimental Study of Unconscious Processes*; Gardner Murphy, City College of New York, *The Irrational in the International Picture*; Henry A. Murray, Harvard University, *The Thematic Apperception Test: Method of Exposing Repressed Emotions*; Joseph Nuttin, University of Louvain, Belgium, *An Analysis of Shame in the Dynamical Structure of Personality*; Omulv Odegaard, University of Oslo, Norway, *On the Psychology of Social Groups as illustrated by their Incidence of Mental Disorder*; Henri Pieron, University of Sorbonne, France, *Sensory Affectivity*; Anne Roe, New York City, *The Use of Clinical Diagnostic Techniques in Research with Normals*; Saul Rosenzweig, Western Pennsylvania Psychiatric Institute and Clinic, *Psychometric and Projective Aspects of the Picture-Frustration Study*; David Shakow, Illinois Neuropsychiatric Institute and the University of Chicago, *Some Psychological Features of Schizophrenia*.

The full list of contributors will include 40-45 scientists in various disciplines from different parts of the world. The sessions on Thursday, October 28, will be held at Mooseheart, Illinois, and the sessions on Friday, October 29, and Saturday, October 30, at the University of Chicago. In planning the program, Dr. Reymert has been assisted by Dr. Anton J. Carlson and Dr. James G. Miller of the University of Chicago, Dr. Herbert Langfeld of Princeton University, and others. All sessions of the conference will be open without tickets to all interested. There will be Open House for all who wish to visit Mooseheart, the City of Childhood, on Wednesday, October 27, and Sunday, October 31. Some of the speakers at the Symposium will participate in the University of Chicago Round-Table national network radio broadcast on Sunday, October 31. Information concerning hotel accommodations and other matters may be obtained by writing to Dr. Reymert.

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